Long Range Facilities Development Planning Bulletin

BASE COMPRESENSIVE PLANNING

U.S. AIR FORCE / DIRECTORATE OF ENGINEERING AND SERVICES

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Long Range Facilities Development Planning Bulletin

Prepared for:	U.S. Air Force Directorate of Engineering and Services and Dept. of the Army HQ U.S. Army Corps of Engineers
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Introduction

Chapter 1

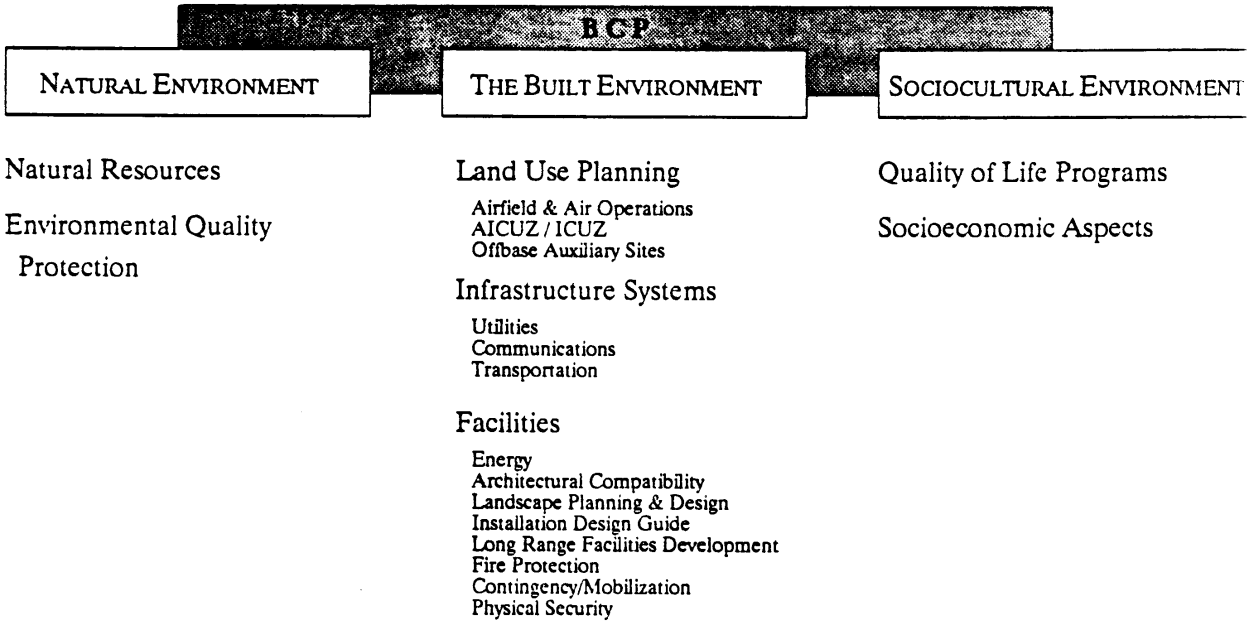
Introduction

A. PURPOSE OF THE BULLETIN/TECHNICAL MANUAL

1-1. Facilities Planning.

a. The Long Range Facilities Development Plan is one of 15 component plans that comprise the comprehensive plan for each installation. Military installations encompass the natural, built, and sociocultural environments; the Long Range Facilities Plan addresses the built environment. Figure 1-1 lists the component plans addressing the three environments.

COMPREHENSIVE PLAN



Military installations encompass natural, built, and sociocultural environments

Figure 1.1

b. The Long Range Facilities Development Plan is the implementation step of the comprehensive planning process for the installation. It is the mechanism through which the long-range vision for the development of each installation is realized. The planning and development of facilities within the overall planning framework of the installation is essential to mission efficiency and overall quality of life. Through the development of comprehensive, logical facilities plans, installations will reflect pride in the modern military and enhance the morale and quality of life of the men and women who work and live there.

c. This document provides guidance for preparers of the Long Range Facilities Development Plan component of the Plan. The bulletin/technical manual:

- Instructs planners in the formulation of facilities plans that contribute to logical, orderly growth
- Instructs planners in the formulation of facilities plans that flow from and adhere to the land Use Plan and other component plans
- Describes the facilities planning process, including an overview of the funding process
- Instructs planners in the preparation of a five-year Capital Improvements Program, which is derived from and provides for implementation of the Long Range Facilities Development Plan.

Facilities planning contributes to improved quality of life

B. HOW TO USE THIS BULLETIN/TECHNICAL MANUAL

1.2. Guide to the Process.

a. This document is a guide to the facilities planning process and the relationship of facilities planning to land use planning and other disciplines. The document provides specific directions to installation personnel and contractors for the preparation of a Long Range Facilities Development Plan as part of the comprehensive planning process for military installations.

b. The document is organized as follows:

- **Chapter 1. Introduction**
  This chapter discusses the nature and purpose of the Long Range Facilities Development Plan as well as its relationship to other component plans. Comprehensive planning goals are presented, followed by objectives for the Long Range Facilities Development Plan.

- **Chapter 2. Framework for the Long Range Facilities Development Plan/Short Range Capital Improvements Plan**
  The purpose of this chapter is to provide a description of the background information that is needed in the preparation of the Long Range Facilities Development Plan. Sources of this information include the land Use Plan, constraints maps, real property records, existing construction programs, and previous planning studies.

- **Chapter 3. Planning Process**

  This chapter describes the facilities planning process in detail. The process includes the following elements:

  - Interview organizations
  - Determine required facilities
  - Determine functional relationships
  - Determine land area requirements
  - Set preliminary priorities
  - Identify site alternatives
  - Select sites

- **Chapter 4. Implementation**

  Links between facilities planning and programming are generally described in this chapter. In addition, instruction of graphically illustrating the plan are presented, as well as guidelines for updating the plan. For a discussion of plan implementation, readers are also encouraged to refer to Appendix D, which consists of a Planning Management Manual developed as part of the Base Comprehensive Plan for Wright-Patterson Air Force Base, Ohio. The Planning Management Manual describes in detail the links between comprehensive planning and the Air Force programming process.

- **Appendixes**

  A sample Long Range Facilities Development Plan is included in the appendix, as well as a scope of work, bibliography and Planning Management Manual.

1-3. Terminology. Non-specific military terms have been used wherever possible in this document. In some cases, generic terms were devised to avoid using terms specific to the Army or Air Force. Please refer to Table 1-1 for the specific Army and Air Force definitions of these generic terms.

Table 1.1

Military Terminology

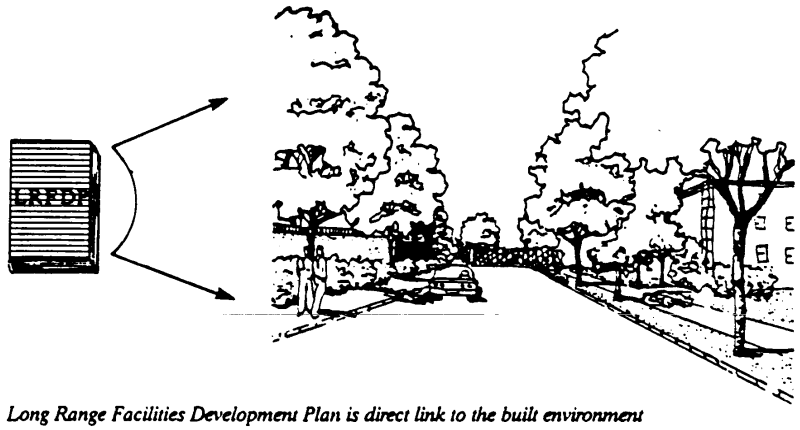
Generic	Army	Air Force
installation	post	base
the Plan (product)	the Installation Comprehensive Plan	the Base Comprehensive Plan (BCP)
Comprehensive planning (process)	installation comprehensive planning	Base Comprehensive Planning
the planner	master planner	community planner
the Engineer	Director of Engineering and Housing (DEH)	Base Civil Engineer (BCE)
major command	MACOM	MAJCOM
short range	5 years	5 years
mid range	10 years	10 years
long range	20 years	greater than 10 years

C. WHAT IS THE LONG RANGE FACILITIES DEVELOPMENT PLAN?

1-4. Implementation Tool

LRFDP DIRECTS FACILITIES DEVELOPMENT

a. The Long Range Facilities Development Plan (LRFDP) is the implementation component of the Base Comprehensive Plan/Master Plan. The LRFDP directs the siting and development of all new facilities at the installation to realize fully the recommendations of the Land Use Plan, Transportation Plan, Landscape Development Plan, Installation Design Guide, Utilities Systems Plan, and other component plans that direct or influence the location and design of facilities.



Long Range Facilities Development Plan is direct link to the built environment

LRFDP IDENTIFIES SPECIFIC PROJECTS

b. Specifically, the LRFDP enumerates which projects and facilities are needed to ensure the efficient fulfillment of the installation's mission while achieving a high quality of life for the installation community. The LRFDP assigns priorities and includes a phasing schedule to implement the recommendations of the comprehensive plan. Therefore, the LRFDP includes large-scale capital improvements as well as smaller renovation and maintenance projects to improve mission efficiency and enhance the overall quality of life. (See DoD Directive 4165.6, Section E-2-a.) The LRFDP presents the long-range vision of the installation in both text and graphic plans.

c. Once all projects are identified in the LRFDP, construction projects are sited in compliance with the Land Use Plan. The installation is then divided into small areas, and small area plans are developed incorporating landscape, architectural compatibility, utilities, fire protection, and transportation considerations in compliance with relevant component plans.

PROJECTS SITED CONFORMING TO LAND USE PLAN

d. Fiscal years are assigned to all major construction projects as well as Operations and Maintenance (0&M), Military Family Housing/Army Family Housing (MFH/AFH), Non-appropriated Funds (NAF), privately funded projects, and all other projects that have been identified as necessary to fulfill the requirements of the installation (see Figure 1.2). O&M projects may be difficult to identify for more than two years in the future, but planners should attempt to identify as closely as possible the need for O&M projects throughout the planning time frame.

PROJECT DESCRIPTION	FY
Auto Hobby	88
Consolidated Support Facility	89
Fire Station	90
Bank	91
Physical Fitness Center	92

Assign fiscal years

Figure 1.2

CIP PRIORITIZES AND PHASES LRFDP PROJECTS

e. Another important element of the LRFDP is the Capital Improvements Program (CIP), which sets priorities and phases for the first five years of the time period covered in the LRFDP. The CIP contains all projects included in the Five Year Defense Program.

f. The Long Range Facilities Development Plan should be viewed as the capstone of the Plan. It is the component plan that allows for the orderly development of the installation in compliance with recommendations of all other component plans. Careful development of the LRFDP will result in an important tool for use by planners and administrators in their efforts to achieve efficient, attractive, livable communities for military personnel and their dependents.

g. The LRFDP must specify all needed projects for the long-range period. See page 1-4 for Army and Air Force definitions of the long-range planning time frame.

D. GOALS AND OBJECTIVES

1-5. Planning Goals. The expressed goals of this planning process are, in the case of the Army, to:

COMPREHENSIVE PLANNING GOALS

- Direct the long-range development of the installation.
- Integrate a number of interrelated functional programs derived from other component plans of The Plan.
- Correlate, synthesize and highlight the interaction among the component plans.
- Relate mission planning to policies, programs and specific projects for our installation facilities systems.
- Relate the needs of the installation to the social, cultural and economic aspects of the surrounding civilian community.
- Provide the basis for all decisions on siting of facilities and setting priorities.
- Provide the basis for preparation of the Five-Year Defense Program (FYDP) and other capital improvement programs, and long-range facilities renovations and replacements.

The Air Force BCP goals are to:

- Provide effective and efficient use of installation resources to support the mission.
- Make optimal use of the latest developments in energy efficient concepts/systems/technologies.
- Protect the natural and human environment.
- Provide the highest possible quality of life for the Air Force community.
- Achieve optimum land use planning.
- Plan for maximum maintainability.

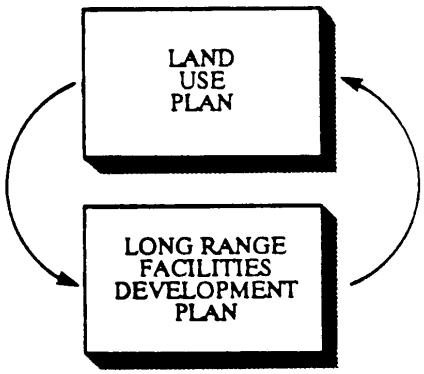
1-6. Long Range Facilities Development Plan Objectives. The overall goal of the LRFDP is the effective orderly direction of the long-range development of the installation. Objectives to achieve that goal include the following:

LONG RANGE FACILITIES DEVELOPMENT PLAN OBJECTIVES

- Plan and program all facilities in concert with the long-range vision for the installation established in the Plan.
- Plan and program all facilities in accordance with the direction provided in all other component plans.
- Plan and program facilities to achieve maximum efficiency in all installation operations.
- Plan and program all facilities in accordance with sound land use and site planning standards.
- Plan and program all facilities to help achieve the highest possible quality of life for the installation community.
- Provide an implementation strategy to ensure timely funding and execution of the LRFDP.

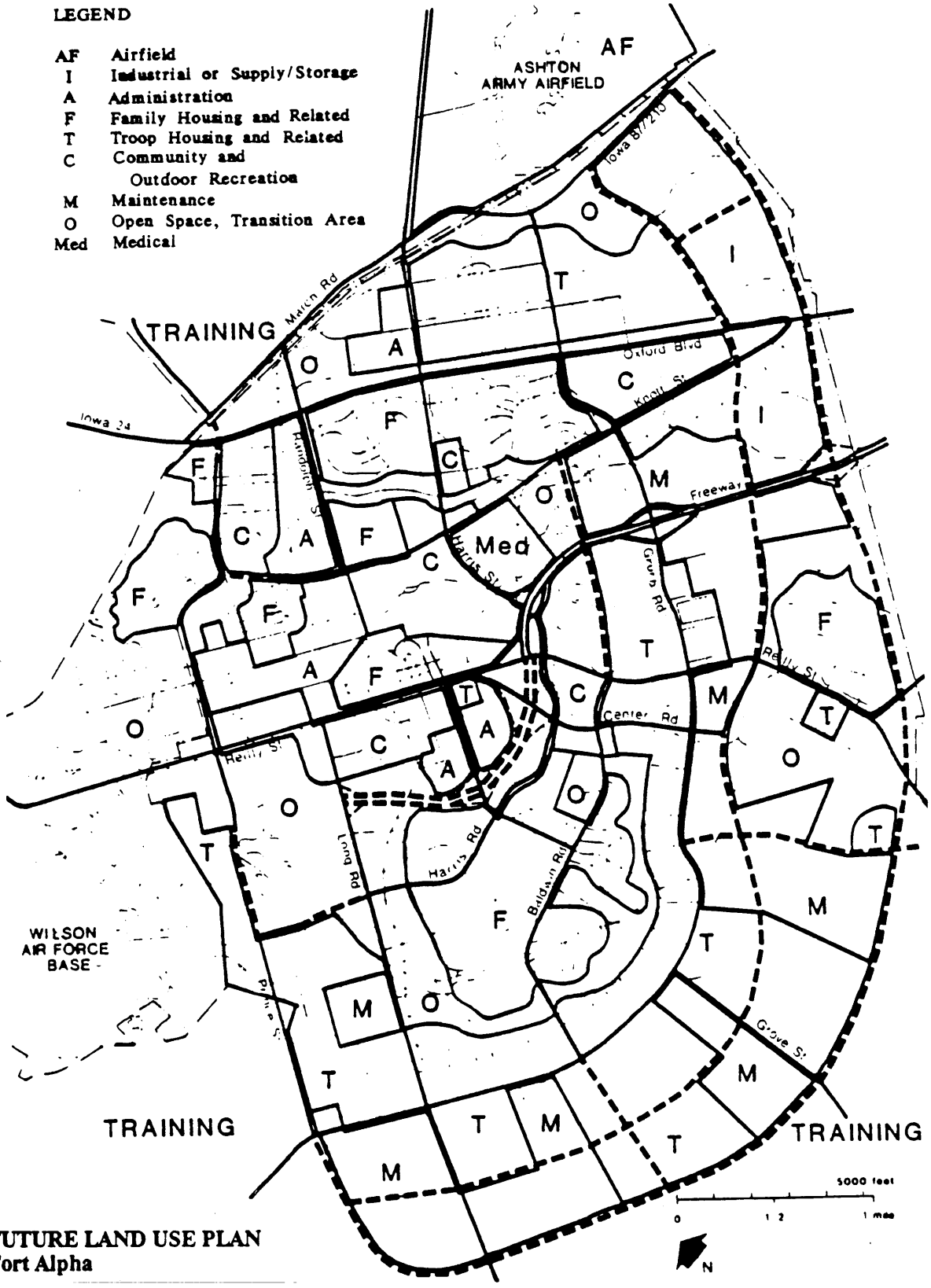
E. RELATIONSHIP TO BASE COMPREHENSIVE PLAN/ MASTER PLAN

1.7. Implementing Component Plans. The LRFDP is most closely related to the Land Use Component Plan (see Figure 1.3), but it is also related to other component plans. These relationships are described briefly in this section. The ways in which the LRFDP and other component plans interact are described in detail throughout this bulletin, particularly in discussions of the planning framework and process (Chapters 2 and 3).



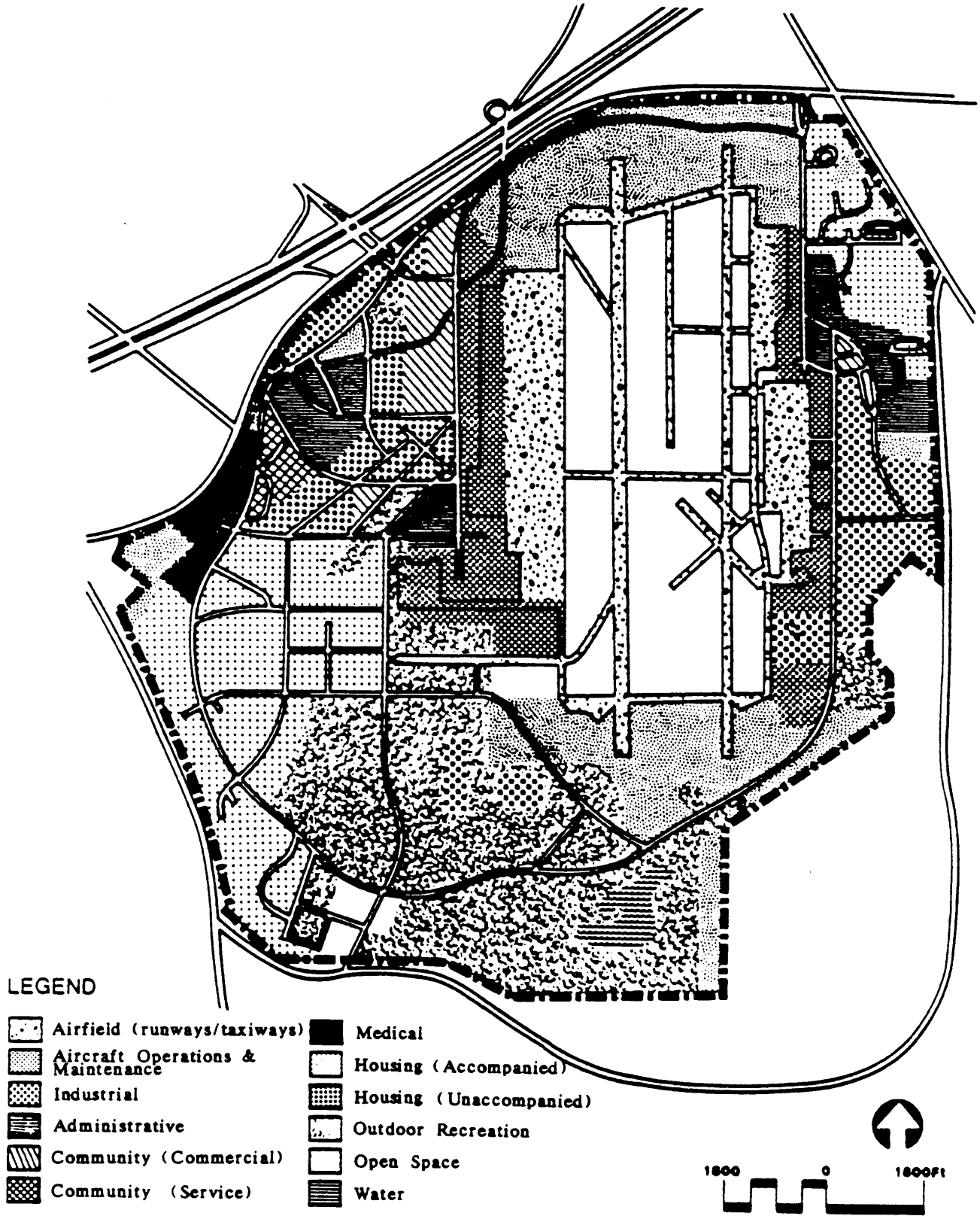
Long Range Facilities Development Plan Relationships

Figure 1.3



FUTURE LAND USE PLAN
Fort Alpha

Figure 1.4



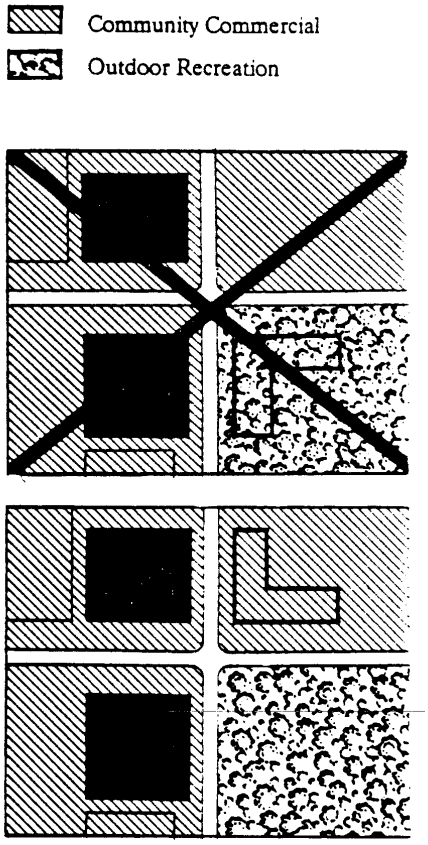
FUTURE LAND USE PLAN
Hometown Air Force Base

Figure 1.5

1-8. Land Use Plan

a. The Long Range Facilities Development Plan flows directly from and is the implementation tool of the Land Use Plan (see Figure 1.3). The Land Use Plan directs general land use patterns for future development of the installation; the LRFDP specifies the location of projects in conformance with the Land Use Plan. The LRFDP is therefore the mechanism through which the future Land Use Plan is realized.

b. The future Land Use Plan identifies land areas for all land uses that are currently found at the installation or are likely to be needed within the time frame covered by the Plan (see Figures 1.4 and 1.5). Once the future Land Use Plan is developed, the LRFDP is developed to locate specific building projects within the appropriate land use categories as identified on the future Land Use Plan (see Figure 1.6). All facilities must be sited in conformance with the Land Use Plan; if conditions change between the time when the Land Use Plan is prepared and the preparation of the LRFDP, the Land Use Plan should be updated before the LRFDP is developed. Ideally, the two component plans should be developed as part of one unified planning effort.



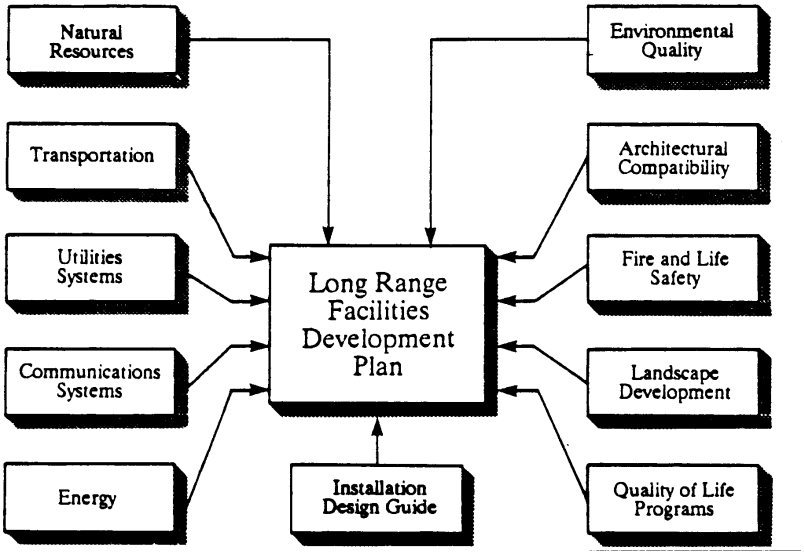
Site facilities within proper land use

Figure 1.6

1-9. Other Component Plans

a. Component plans that guide the identification, location, and design of new facilities as well as the rehabilitation and maintenance of existing facilities also serve as input to the LRFDP. These include the Transportation, Utilities Systems, Communications Systems, Energy, Architectural Compatibility, Fire Protection, Landscape Development, Installation Design Guide, and Quality of Life Component Plans (see Figure 1.7). The LRFDP should be viewed as the implementation vehicle of the portions of those component plans that direct or recommend the development, rehabilitation, or maintenance of facilities. For

example, the Landscape Development Plan may recommend the placement of street trees along a major boulevard. The LRFDP would then include a project for the planting of those trees, or the tree planting would be included in another project in the LRFDP. In either case, the street tree planting would become part of the LRFDP.



Component plans input to the Long Range Facilities Development Plan
Figure 1.7

b. Whether or not other component plans contain specific recommendations for projects such as the example described above, the projects in the LRFDP must be located and developed in such a manner so as to be in compliance with all other component plans. The final LRFDP must be reviewed to ensure its compatibility with and fulfillment of these component plans.

F. BENEFITS OF PLANNING AND CONSEQUENCES OF NOT PLANNING: WHY PREPARE A LONG RANGE FACILITIES DEVELOPMENT PLAN?

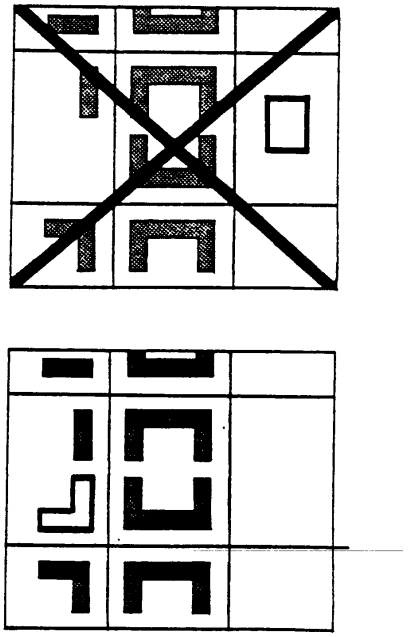
1-10. Planning According to Long Range Goals

LONG-RANGE VISION

a. The Long Range Facilities Development Plan provides a picture of what installation leadership and planners want the installation to look like in the long range years. All interim plans will work toward achieving this long-range goal for the future of the installation. The LRFDP includes all projects that will be needed to operate the installation safely and efficiently and places priorities on all the projects to guide funding and development decisions. The LRFDP provides the framework for orderly, logical development at the installation, development that is undertaken with the entire installation's goals for the future taken into consideration.

b. Without a LRFDP, facilities are sited according to the vacant lot" principle: new facilities are simply located on any available vacant land, with no regard for how the facility may relate to its neighbors or how the facility fits into the long-range goals of the installation (see Figure 1.8). This kind of facility planning results in unattractive, inefficient installations and unpleasant environments for workers and residents.

c. Without a LRFDP, there is no vehicle to tie together the recommendations of various component plans and facilities are likely to be sited and designed without regard to utilities, transportation, and other considerations. In addition, without a LRFDP, facilities are likely to be programmed, sited and designed in response to crises, the wishes of individual commanders, or other short-term conditions, rather than within the framework of the long- range goals for the installation.



Infill built areas before expanding into new areas

Figure 1.8

2

Framework for the Long Range Facilities Development Plan/Short Range Capital Improvements Plan

Chapter 2

Framework for the Long Range Facilities Development Plan/ Short Range Capital Improvements Plan

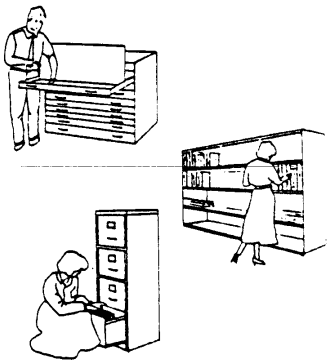
2-1. Information Sources. Military installations often have a long history of planning and environmental analysis. Preparers of the LRFDP should thoroughly research the files, bookshelves, and memories of Base Civil Engineering/Directorate of Engineering and Housing (BCE/DEH) personnel to gain a complete understanding of all previous plans and studies conducted at the installation which may have a bearing on facility siting. This section describes several potential sources of information.

A. LAND USE PLAN

2-2. The Framework

a. The Land Use Planning Bulletin (AFP 86-7/Army TM 5-803-8) defines the Land Use Plan as "a written and graphic guide to achieving long-term installation goals. It is the basis for judging each siting proposal, demolition, or activity relocation proposed at the installation. A land use plan charts a course of action to achieve specific, written goals." The Land Use Plan delineates very specifically the land use that is permitted in each area of the installation. Unless specifically noted in the plan, flexibility is not permitted; only facilities falling within the specified land use category may be located at any given site. If changes in conditions warrant location of a facility in violation of the Land Use Plan, the Land Use Plan should be amended.

b. Clearly, the Land Use Plan forms the basis of all siting decisions and other elements of the Long Range Facilities Development Plan (LRFDP). The Land Use Plan provides a general picture of what the installation will look like at the end

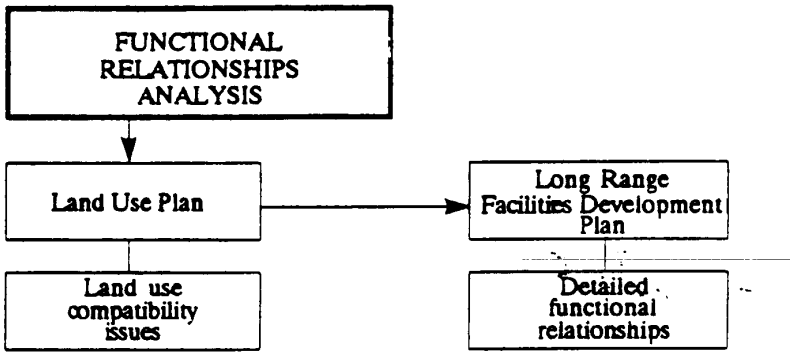


Planning information sources

of the planning time frame. The LRFDP fills in the details of the picture, adding specific facilities within the general framework provided by the future Land Use Plan. The existing Land Use Plan is changed every time development of a new facility, demolition of an old facility, or an organizational move results in a change in land use at the installation. By the end of the specified planning period, the existing Land Use Plan should be very similar to the future Land Use Plan developed at the beginning of the planning time frame.

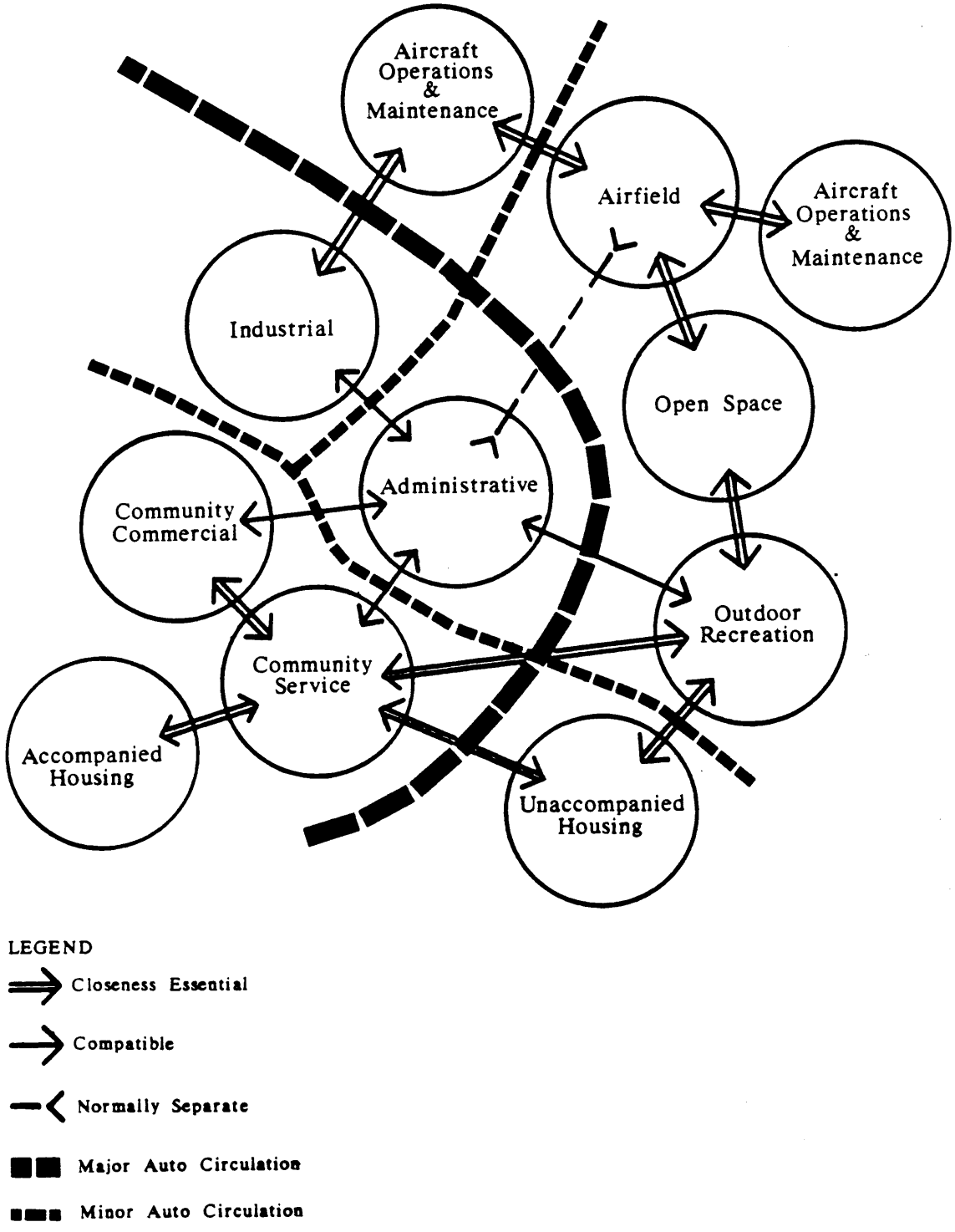
c. The Land Use Plan should be developed prior to the LRFDP, but the Land Use Plan should take into account the over- all future needs of installation organizations. For example, if the need for troop housing is expected to grow in the time frame covered by the Plan, expansion room for troop housing land use must be provided on the future Land Use Plan. The LRFDP would then specify which projects will be needed for troop housing and where they will be sited within the troop housing land use area shown on the Future Land Use Plan.

d. The Functional Relationships Analysis included in the Land Use Plan (see Figure 2.1) is expanded in the LRFDP. While the Functional Relationships Analysis in the Land Use Plan focused on land use functional relationships and related compatibility issues, the further development of the Functional Relationships Analysis in the LRFDP addresses each organization on the installation and its relationships with other organizations and land uses (see Figure 2.2). This process is described in Chapter 3.



Functional Relationships Analysis is further developed in LRFDP

Figure 2.2



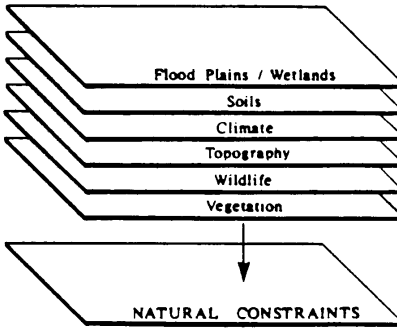
Functional Relationships Analysis (Land Use Plan)

Figure 2.1

B. DEVELOPMENT SUITABILITY

2-3. Combined Constraints. Man-made and natural constraints to development are mapped on the Combined Constraints (Army Existing Conditions Development Constraints Map or AF TAB D-6) map. The Land Use Plan takes into account these constraints; for example, a flood plain would be shown as open space, and airfield setbacks are shown as part of the airfield. (See the Land Use Planning Bulletin/Manual Bulletin/Manual and the Comprehensive Planning Approach and Process for further information on constraints analysis.) Nevertheless, facilities planners should be familiar with these constraints and their effects on facility location and design. The composite constraints map should be reviewed before siting any facility to ensure that any necessary mitigation measures are taken into account in the development of facilities in a restricted area (see Figure 2.5).

2-4. Natural Constraints. Natural constraints to development include flood plains and other wetlands, soils suitability, geology, climate, endangered and threatened species of flora and fauna, steep topography, availability of water, significant vegetation, unique or important views of natural features, and any other unique or important natural phenomena. Many of these constraints do not prohibit development outright, but they often do involve restrictions or require mitigating measures in siting or design. The constraints should be mapped separately and then combined into composite natural constraints (see Figure 2.3).



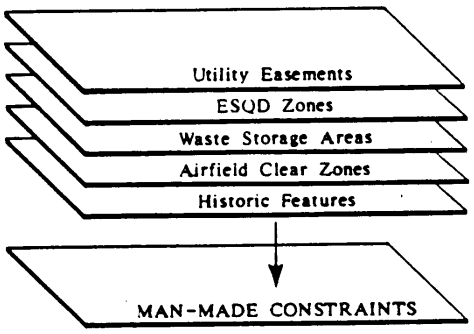
All environmental factors should be considered as n individual installations. The degree of severity of constr

Figure 2.3

2-5. Man-made Constraints

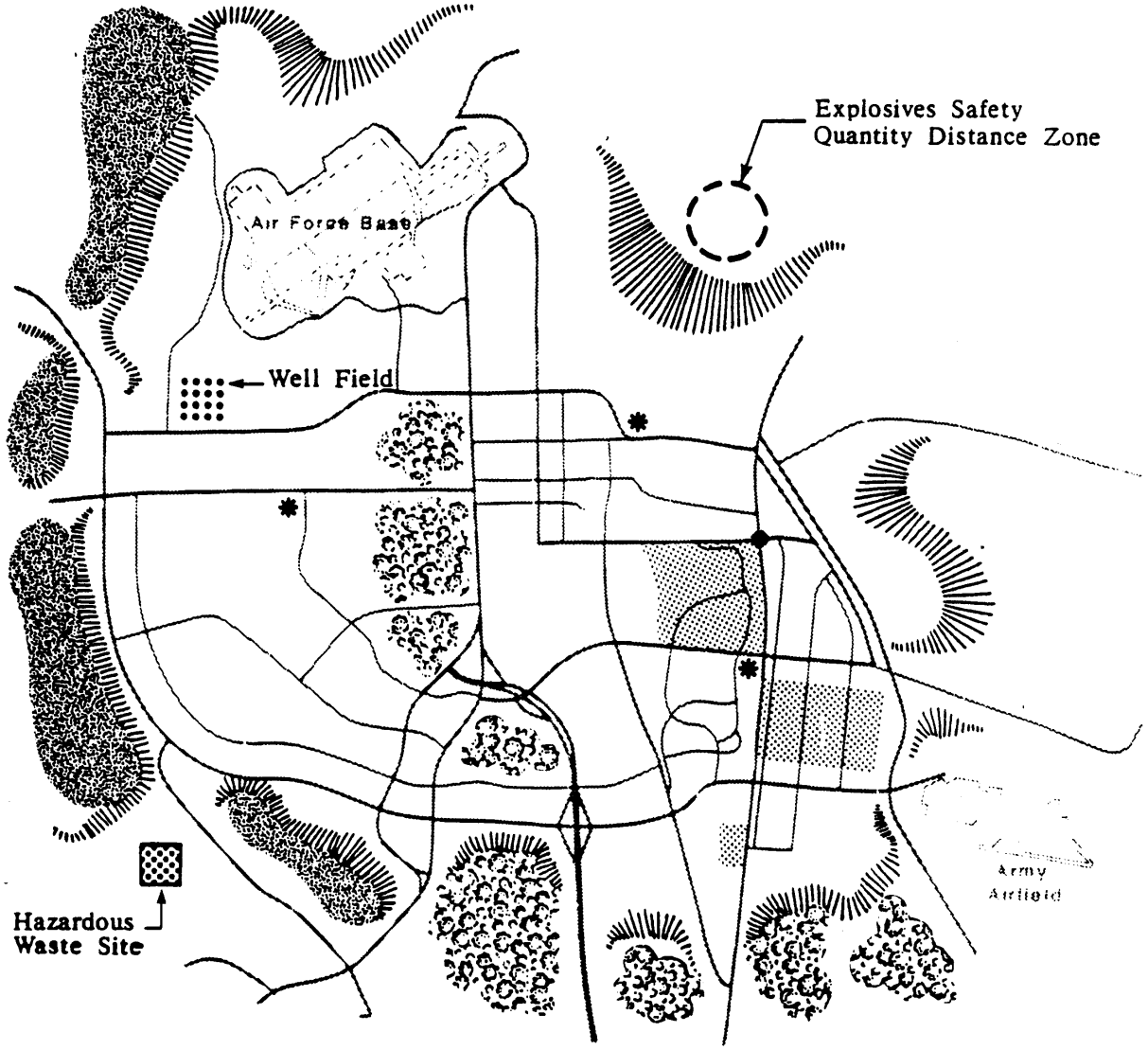
a. Man-made constraints that may prohibit or affect development of facilities include Explosive Safety Quantity Distances related to weapons and other potentially explosive materials; fill, waste, or hazardous spill areas; utility easements; noise zones associated with airfield Air Installation Compatible Use Zones/Installation Compatible Use Zones (AICUZ/ICUZ) or firing ranges; airfield clear zones; firing range impact areas; cultural resources such as archaeological sites, historic buildings, and historic markers; and significant visual features or sight lines. In addition, constraints that are adjacent to an installation should be considered when siting facilities; for example, an industrial plant with noxious fumes adjacent to an installation would prohibit certain kinds of development on the installation in the area negatively affected by the plant.

b. Preparers of the LRFDP should consult AICUZ/ICUZ studies, Installation Restoration Programs, Cultural Resource Studies, real property maps, and all other documents, plane and maps that outline these and other man-made constraints. The constraints should be mapped separately and then combined into composite man-made constraints (see Figure 2.4).



All man-made factors should be considered as man-made constraints; all may not apply to individual installations. The degree of severity of constraints may also vary.

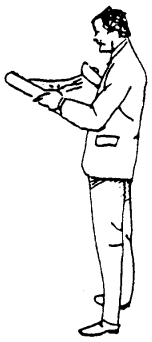
Figure 2.4



COMBINED CONSTRAINTS MAP
Fort Alpha

Figure 2.6

C. EXISTING FACILITY REQUIREMENTS ANALYSIS/ FACILITY USE SURVEY



Real Property Officer maintains facilities records

2-6. Real Property Records. The installation's Real Property Officer maintains records of all current facilities, their condition, occupants and use, and the gross square footage allocated to each organization or unit. While these records are not always completely accurate or up to date, they are an invaluable source of information about the installation facilities and their occupants. They should be used as the basis for compiling information about the space occupied by each organization on the installation.

2-7. Previous Studies. In addition to the real property records, the Engineer may have undertaken a facility use survey before the LRFDP planning process begins. In many cases, the Planning Board or Facilities Board has interviewed varying organizations on the installation to determine space requirements and future organization plans for moves or expansions. Records of these surveys or studies should be carefully studied by the preparers of the LRFDP; in some cases, the installation may have already conducted some of the research needed for the preparation of the LRFDP.

USE PLANNING BOARD STUDIES

D. EXISTING MILITARY CONSTRUCTION PROGRAM/ MILITARY CONSTRUCTION ARMY (MILCON)

2-8. The Five-Year Defense Plan. Each installation must prepare a five-year major construction program annually. This construction program serves as the basis for the LRFDP, which will verify the requirements set out in the MILCON program and add long-range projects to the five-year plan. The LRFDP preparers should carefully study the existing construction program to determine the validity of the projects and priorities contained therein; the MILCON is the best indication of the installation's priorities and perceptions of facility requirements. Approved DD Form 1391s can be consulted for information about approved projects.

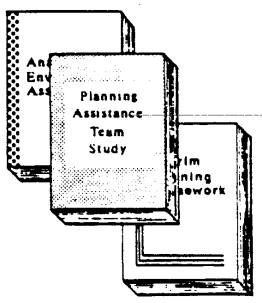
STUDY EXISTING CONSTRUCTION PROGRAM

E. EXISTING OPERATIONS AND MAINTENANCE/ FAMILY HOUSING/NON-APPROPRIATED FUNDS PROJECTS (O&M/MFH/AFH/NAF)

2-9. Scheduled Projects. Similarly, installations usually have a schedule of planned O&M, MFH/AFH, and NAF projects. These projects will also be included in the LRFDP; planners must therefore be familiar with all existing projects currently planned by the installation.

F. PREVIOUS PLANNING STUDIES

2-10. Recommendations of Other Planning Professionals. At some installations, efforts such as an Air Force Planning Assistance Team (PAT) Study or an Interim Planning Framework may have been undertaken within a few years previous to the comprehensive planning effort. Military Traffic Management Command (MTMC) studies can provide valuable information about transportation issues. (Use caution, however, when using information from these studies; they can become quickly outdated.) These studies reflect the judgment of military planning professionals on issues such as land use, facility siting, and urban design, and they can be very informative for preparers of the LRFDP.



Reference previous planning studies

3

Planning Process

Chapter 3

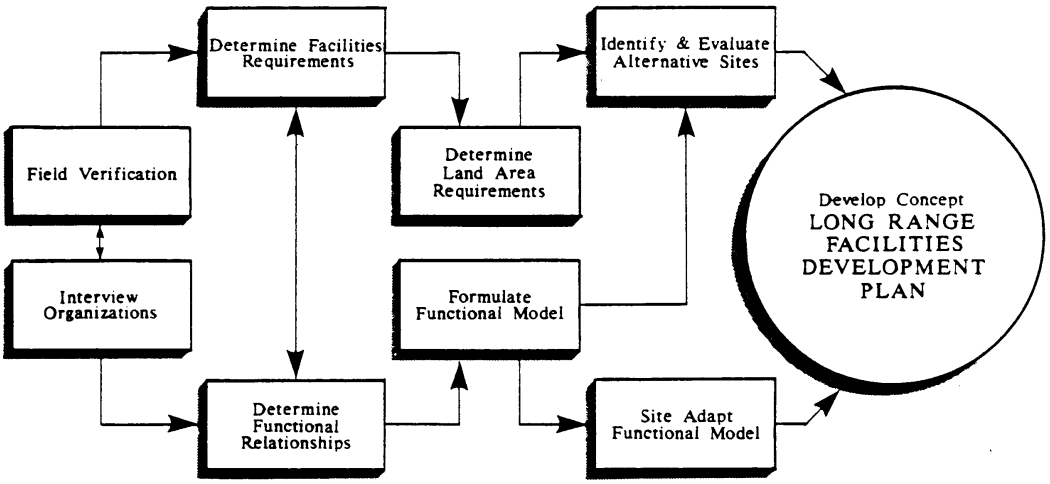
Planning Process

A. INTRODUCTION

3-1. Planning Process Elements. The Long Range Facilities Development Planning (LRFDP) process includes the following elements illustrated in Figure 3.1:

- Identify organizations/facilities
- Field verify real property records
- Interview installation organizations
- Determine required facilities
- Determine detailed functional relationships
- Determine land area requirements
- Formulate functional model
- Assign priorities
- Site adapt functional model
- Identify and evaluate alternative sites
- Concept Long Range Facilities Development Plan

These steps are described in detail on the following pages.



Planning Process Flow Chart
Figure 3.1

B. IDENTIFY ORGANIZATIONS AND FACILITIES/ FIELD VERIFY PROPERTY RECORDS

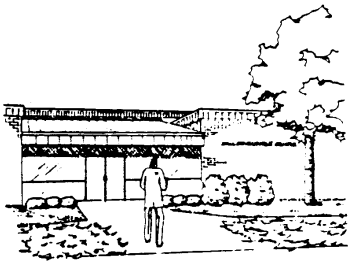
3.2. Pre-interview Preparation

a. Before conducting interviews, planners should become acquainted with Real Property records that indicate the occupant of each facility on the installation. These records should be field-verified prior to the interviews. Using a list of organizations provided by the Engineer, compile a preliminary data base to indicate the facilities occupied by each organization and their function. These data will be verified during the interviews.

b. If Real Property records are incomplete or inaccurate, make a list of buildings from the installation base map and indicate known occupants; the data base should be completed by conducting field surveys of all buildings to determine their occupants. This building survey can be accomplished at the same time as the on-site land use survey.

INTERVIEWS

who
what
when
where
how
?



Field verify building function and occupants

C. INTERVIEW INSTALLATION ORGANIZATIONS

3-3. Purpose of the Interviews. Scheduled interviews between planners and representatives of each installation organization are an essential part of the planning process. These interviews provide planners an excellent opportunity to gain a good understanding of each organization's mission, function, requirements, and special locational needs.

3-4. Scheduling. Once planners have gained a good preliminary understanding of the facilities on the installation and their occupants, interviews with each organization should be scheduled. It is highly preferable for the interviews to be scheduled by the Engineer, with an accompanying letter signed by the installation commander explaining the purpose of the interview and its importance in the planning process. Commanders or deputy commanders of organizations should be encouraged to participate in the interviews; planners must be able to talk to organization representatives who have a thorough understanding of the organization's mission, current facilities, functional relationships with other organizations, and future plans. Depending upon the size of the organization, 15 to 30 minutes should be scheduled for each interview. If an organization is responsible for varying functions and many facilities at the installation, a full hour may be needed.

SCHEDULE INTERVIEWS

INTERVIEW AT CENTRAL LOCATION

3-5. Conducting the Interviews

a. Interviews of all installation organizations can take from three to ten days, depending on the schedule. If time is short, all interviews should be held at a central location on the installation; asking interviewees to report to the interview site will eliminate several hours of travel time for the interviewers. If the interviewers wish, however, they can decide to interview organizations at their facilities. This will allow interviewers the opportunity to see current facilities first-hand. If the interviews are held at a central location, the interviewers may wish to schedule follow-up visits to selected facilities. All individuals who will participate in facility location decisions should be present at the interviews.

b. At a minimum, the following topics should be covered with each organization:

- Mission
- Number of employees
- Current facilities
- Adequacy of current facilities
- Parking and other special requirements
- Future moves or other plans
- Relationships with other organizations
- Other requirements affecting facility siting.

Conduct interviews

The interviewers should be careful to keep the discussion focused at the master planning level; detailed discussions of the space needs of individuals can be time consuming and raise false expectations about the comprehensive plan.

c. Figure 3.2 illustrates a sample interview form. Interviewers should be sure to record the name, title and telephone number of the persons interviewed so that they may be contacted if further information is needed later in the planning process. The interviewers may also wish to tape record the interviews for future reference.

SYNTHESIZE DATA

3-6. Post-interview Data Synthesis. As soon as possible after the interviews are complete, summaries of the data for each organization should be prepared. Follow-up telephone or personal interviews may be needed at this time to clarify information or fill in gaps in the data.

DATE:

NAME OF ORGANIZATION:

FAS CODE (VERIFY):

REPRESENTATIVE(S)

MISSION:

# EMPLOYEES:	Current Full-Time	Current Part-Time	Current Total	Authorized
MILITARY				
CIVILIAN				

CURRENT FACILITIES:	Bldg. No.	Square Feet	# People	Comments

PARKING REQUIREMENTS/ADEQUACY:

ADEQUACY OF CURRENT FACILITIES:

NEW PROJECTS/FUTURE MOVES:

RELATIONSHIPS WITH OTHER ORGS:

OTHER COMMENTS:

Sample Organization Interview Form

Figure 3.2

D. DETERMINE REQUIRED FACILITIES

3-7. List of Projects.

IDENTIFY FACILITIES REQUIREMENTS

a. Once the personnel levels and other factors affecting organizational space needs for all organizations are known, facilities requirements can be determined for all organizations at the installation. The purpose of this phase of the planning process is to determine generalized space requirements for each organization to verify significant shortfalls that indicate the need for new or expanded facilities. Specific square footage requirements for each facility will be determined during detailed programming and design phases.

DETERMINE SQUARE FOOTAGE REQUIREMENTS

b. Information about square footage requirements gained in the interviews should be taken into consideration, but regulations (DoD 4270.1-M, Army Architectural and Engineering Instructions - Design Criteria and Air Force Manual 86-2, currently under revision) quantify the space that may be allocated for different types of facilities by category code, depending upon number of employees and other factors. Special conditions may very well warrant deviation from these guidelines, but the regulations can be used to provide a basis for verifying perceived space shortages or other conditions that are perceived to warrant significant additional space.

PREPARE SPACE ALLOCATION TABLE

c. Prepare a table listing each organization, the space currently occupied by each function, and the net space surplus or deficit. The deficits shown on the table will indicate what new facilities, renovations, additions, and reallocation of space are needed.

d. The final product of this phase is a list of recommended projects, including new facilities, additions, and renovations, that are needed to remedy space deficits or otherwise inadequate facility conditions (see Table 3.1). A land use category must be assigned to each project using the criteria set forth in the Land Use Planning Bulletin/Technical Manual (AFP 86-7/Army TM 5-803-8). This will allow the projects to be sited in areas designated with the appropriate land use categories.

LIST RECOMMENDED PROJECTS

Table 3,1

List of Projects

LAND USE	DESCRIPTION	SCOPE (SF)
ACADEMIC	LIBRARY/MEDIA CENTER	
ADMINISTRATION	TELEPHONE EXCHANGE	2,500
ADMINISTRATION	CONSOLIDATED SUPPORT FACILITY	29,300
ADMINISTRATION	POLICE OPERATIONS FACILITY	11,400
ADMINISTRATION	STANDARD SYSTEMS CENTERPH 3	50,000
ADMINISTRATION	MOORE DRIVE GATEHOUSE	
COMMUNITY COMMERCIAL	ADAL COMMISSARY	5,800
COMMUNITY COMMERCIAL	AUTO HOBBY	11,100
COMMUNITY COMMERCIAL	EXCHANGE COMPLEX & CONCESSIONS	20,000
COMMUNITY COMMERCIAL	BANK	6,375
COMMUNITY COMMERCIAL	DINING HALL	24,000
COMMUNITY COMMERCIAL	THEATER	17,000
COMMUNITY COMMERCIAL	BOWLING ALLEY	10,750
COMMUNITY SERVICE	EXPAND CHILD CARE CENTER	1,464
COMMUNITY SERVICE	RECREATION CENTER/LIBRARY	19,800
COMMUNITY SERVICE	NCO DISPLAY BUILDING	
FAMILY HOUSING	IMPROVE CALIFORNIA MFH PH 1	
INDUSTRIAL	WAREHOUSE	114,000
INDUSTRIAL	PRECISION MEASUREMENT EQUIPMENT LAB	7,200
INDUSTRIAL	FIRE STATION	8,400
INDUSTRIAL	CE/VEHICLE MAINTENANCE COMPLEX	63,850
INDUSTRIAL	FIELD PRINTING PLANT	35,000
RECREATION	ADAL GYM	1,280
RECREATION	PHYSICAL FITNESS CENTER	28,200
TRANSPORTATION	TRANSP/SECURITY/UTIL IMPROVEMENTS	LS
UNACCOMPANIED HOUSING	50 PERSON VOQ	24,250
UNACCOMPANIED HOUSING	ALTER UEPH	304 PN
UNACCOMPANIED HOUSING	VOQ	80 PN
UNACCOMPANIED HOUSING	VOQ UPGRADE	

E. DETERMINE DETAILED FUNCTIONAL RELATIONSHIPS

3-8. Steps in the Functional Relationships Analysis.

a. The biggest factor affecting facility sitings within specified land use areas are relationships between organizations. The siting of facilities to take advantage of close relationships between organizations leads to safer, more efficient operations and a higher quality of life.

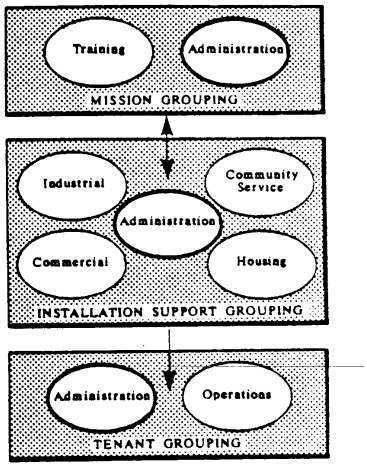
b. The functional relationships analysis is first performed as part of the Land Use Plan. (See the Land Use Planning bulletin/manual, Chapter 4.) The functional relationships analysis is further defined in the LRFDP by systematically evaluating the relationships among organizations and the effect of those relationships on organizational needs. To perform this analysis, use the data from the interviews to assess the relationship of each organization to each other organization, with the purpose of identifying specific locational requirements related to functional relationships. Relationships can be categorized as primary, secondary or negative. Primary relationships are those that require collocation of organizations; secondary relationships indicate interaction between organizations but collocation is not necessary; negative relationships exist between organizations that should be physically separated. If desired, the relationships can be illustrated in a matrix that may reveal patterns of relationships that suggest collocation of various organizations.

c. Be sure to consider varying functions of organizations within a land use category. For example, all administrative functions are categorized as a single land use group. Administrative Organizations, however, may differ markedly in their roles and relationships: one administrative organization may perform a mission-related function; another may be a support organization for the entire installation; and another may be an associate unit (tenant) that has little relationship to any

organization or mission at the installation (see Figure 3.3). The locational requirements of these three organizations, all characterized as administrative, differ markedly.

3-9. Detailed Functional Model.

a. After analyzing the functional relationships of all organizations, prepare a detailed functional model. The purpose of the model is to summarize the relationships and dependencies of the installation organizations. The model is non-site specific; it is meant to show only relationships, not the locations of various land uses and the organizations within them.



Administrative organizations may have varying functions

Figure 3.3

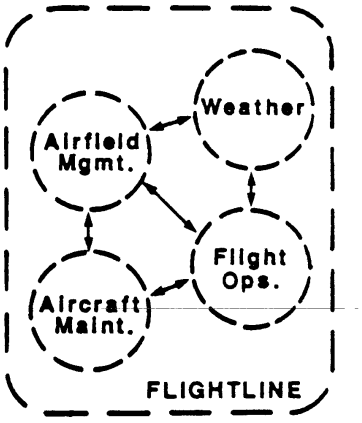
b. The basic unit of the functional model is the land use category; all primary and secondary relationships of organizations within land use areas are illustrated on the model.

c. Where significant primary relationships exist between specific organizations within or outside of land use categories, they may also be shown on the model to suggest collocation.

d. Other relationships that are important to illustrate on the model are those between land uses or individual organizations with client groups or others outside the installation.

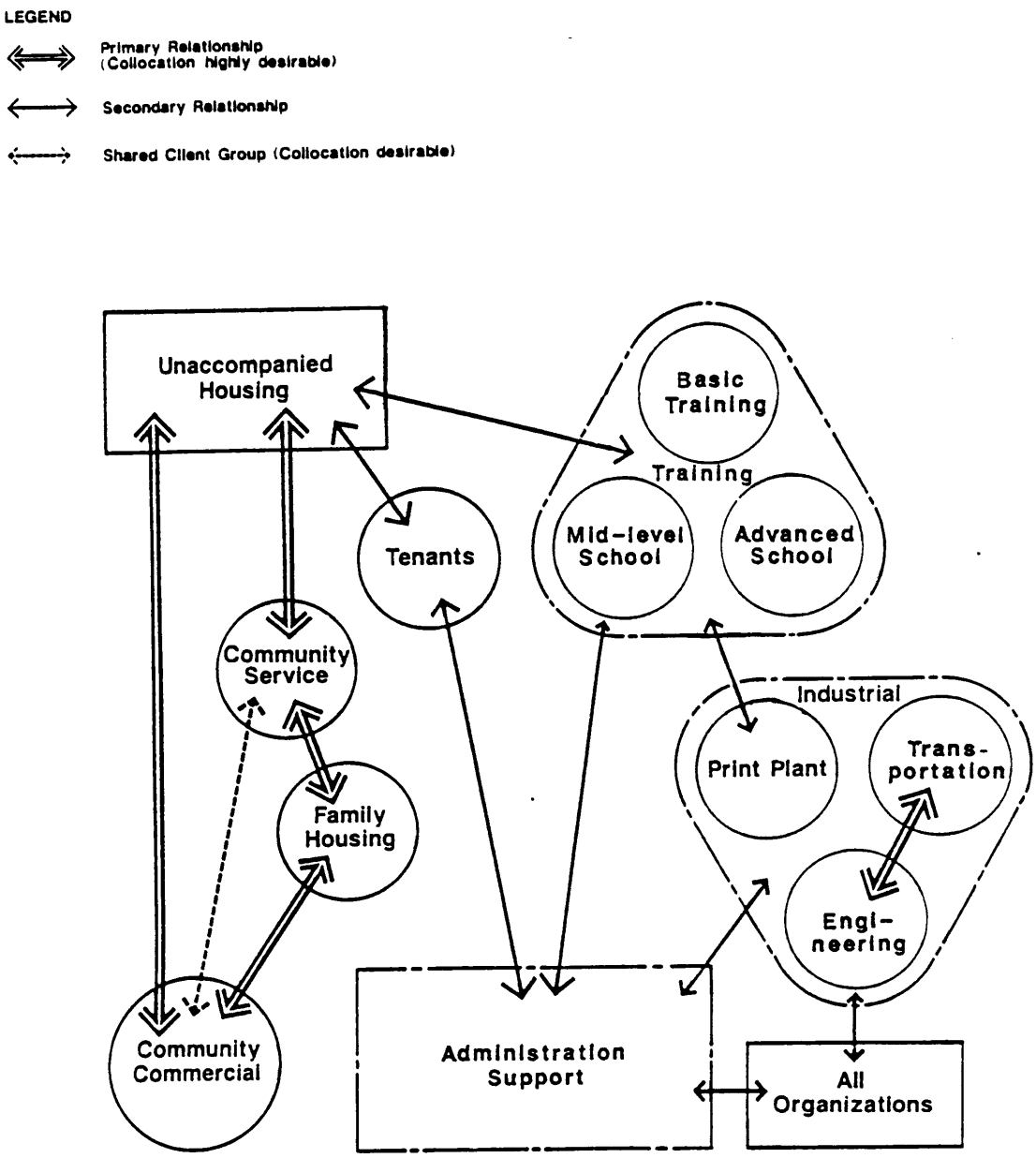
e. If a land use category at an installation contains several organizations with complicated interrelationships, specific models should be developed to illustrate the relationships within the grouping. These more specific models will assist planners in specific siting decisions within land use areas. See Figure 3.4.

f. An example of a functional model is shown on Figure 35. The model forms the basis for siting decisions; locating facilities in accordance with the model will result in a functionally efficient environment that enhances the quality of the work experience for military personnel as well as the overall quality of life for the entire installation community.



Functional relationships within a land use

Figure 3.4



DETAILED FUNCTIONAL MODEL (Example)

Fort Alpha

Figure 3.5

F. DETERMINE LAND AREA REQUIREMENTS FOR REQUIRED FACILITIES

3-10. The Building Site

a. After the required new facilities have been identified in the previous phases, land area requirements must be determined before siting alternatives can be developed (see Figure 3.6). Land area requirements are determined by the building footprint, parking, setbacks, open space, access, and any other special land area requirements a facility may have, such as outdoor storage. Other factors to consider are utility requirements and noise and visual buffers.

IDENTIFY LAND REQUIREMENTS

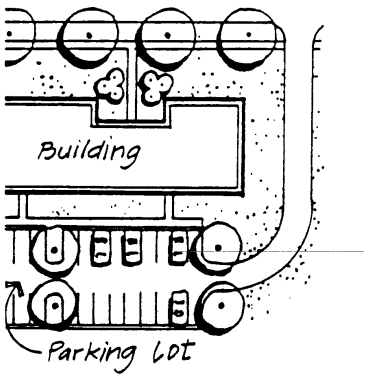
b. At this stage of the planning process, exact building footprints are not known and should not be determined. General square footage requirements have been determined earlier in the process (described in Section 3-6.b.), however, and can be used to determine how much land area a building will occupy. The Architectural Compatibility Guide/Installation Design Guide will be consulted to determine appropriate building height, and a general land area coverage figure can then be determined.

Item	Sq. Ft.
Bldg.	20,000
Parking (20 sp.)	7,000
Rec. Fields	30,000
Storage	5,000
Total Land Area Required	63,000

Determine general land area required for facility

Figure 3.6

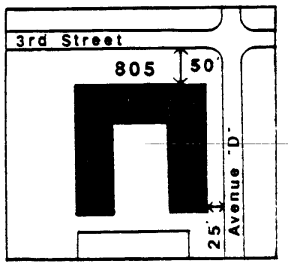
c. DoD 4270.1-M, Army Architectural and Engineering Instructions--Design Criteria, and Air Force Manual 86-2 provide formulas based on the number of employees to determine the parking allowance for each structure. These formulas should be used as a guideline along with the Transportation Plan, which provides information about the driving habits and parking needs of installation personnel, to determine the parking requirements for a facility. Data collected in the interviews will also help planners decide how much parking should be provided for a specific structure. A gross figure of 350 square feet per space should be allotted at this stage of planning to determine parking lot areas (see Figure 3.7). Special parking and access requirements, such as loading docks and government vehicle parking, should also be considered.



Allocate 350 sq. ft. per parking space

Figure 3.7

d. The Landscape Development Plan should specify required setbacks for structures along primary and secondary corridors. Requirements for pedestrian access may also be discussed in the Landscape Development Plan and/or the Transportation Plan. While the exact area required for these elements cannot be determined until a specific site is selected, a general area requirement taking into account all these factors which comprise the building envelope will allow planners to select and evaluate alternative sites for new facilities. See Figure 3.8.



Site facilities with regard to setbacks

Figure 3.8

G. SET PRELIMINARY PROJECT PRIORITIES

PRIORITIZE PROJECTS

3-11. Preliminary Phasing. Detailed priorities and precise phasing plans are part of the implementation phase of the LRFDP process, which cannot occur until site selections have been made for all new facilities. Preliminary priorities must be determined at this stage of the planning process, however, because the timing of a project may affect what land will be- available for it. For example, if a new Security Police Facility is scheduled in Year 2 of the plan and the current facility occupied by Security Police is scheduled to be demolished, the land area now occupied by the Security Police Facility will be available for use by another facility by Year 4 of the plan. Therefore, some idea of the phasing of projects should be determined at this point in the process. Planners should recognize that the location of some facilities may not be finalized until priorities are determined for all projects and the projected timing of the development of all projects is finalized.

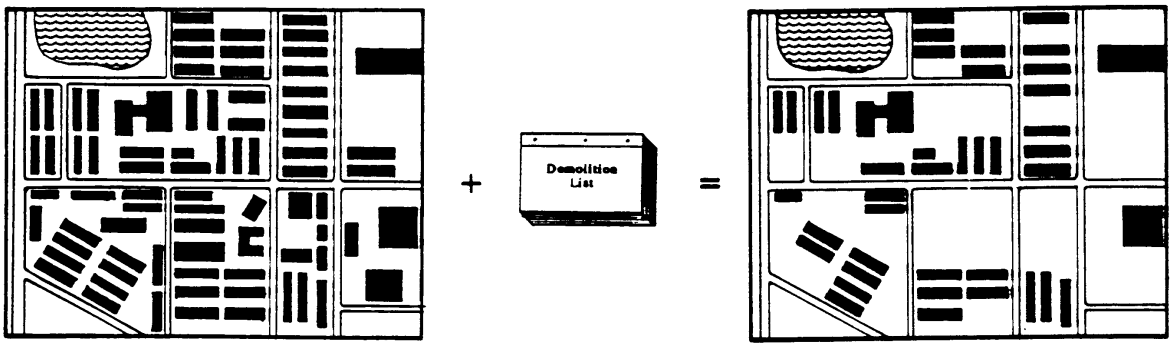
DETERMINE PROJECT PHASING

H. SITE ALTERNATIVES

3-12. Identify Developable Land Area

a. All developable land area must be determined before site alternatives for new projects can be developed. Developable land area includes all land area that is currently vacant and that which will be vacant as a result of future building demolition.

b. Currently vacant developable land can be determined using the Combined Constraints Map described in Chapter 2. Demolition of facilities should be viewed as part of the phased process of redevelopment. In addition, planners should consider buildings that are in good condition and scheduled to be vacated as opportunities for reuse. Land that will become available as a result of building demolition's can be determined using the installation's list of buildings to be demolished and the list of buildings that will be demolished as a result of recommendations contained in the LRFDP. It is often helpful to map developable land by eradicating buildings that will be demolished from a copy of the installation base map; this shows all land that can be considered for new project locations (see Figure 3.9). The buildings to be demolished can also be color-coded according to years, which will indicate when the land area will be available for new development.



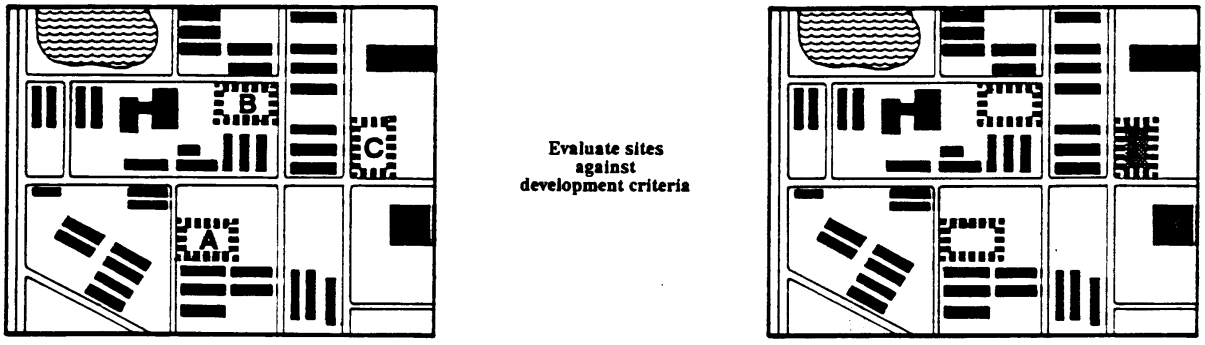
Identify developable land area
Figure 3.9

a. **3-13. Identify Site Alternatives**

a. Once projects, land use categories, organizational relationships, land area requirements, and general phasing have been determined, alternative sites for each project can be selected. Sites must be selected within the specified land use category into which the project falls (see Figure 3.10). The organizational model should be adapted to the site and followed as closely as possible in selecting alternative sites for facilities. All alternative sites for each project should be identified and evaluated; some projects may have several reasonable alternative sites, while others will only have one logical spot. Existing structures in good condition should also be considered for adaptive re-use. Planners are encouraged to be innovative in site selection and not limit alternative selection to previous patterns of development at the installation. **Previous poor planning practices have resulted in illogical and inefficient development at many installations, and new plans should not reinforce these development patterns. The location of existing facilities must certainly be considered, however, and the LRFDP must fit new buildings Into the installation in a manner that reinforces existing positive development patterns and reverses negative ones to the extent possible.**

IDENTIFY AND EVALUATE SITE ALTERNATIVES

b. All project site alternatives selected for evaluation must meet the minimum requirements for the facility of land area, functional relationships, transportation and access, and utilities. Consult the Utilities Systems Plan for information about utilities availability in specific areas.



Identify project site alternatives **Final site selected**

Site selection process

Figure 3.10

3-14. Evaluate Site Alternatives. The next phase of the process involves evaluation of site alternatives for each project. Each site must be evaluated for its fulfillment of the following criteria:

EVALUATE:

efficiency
accessibility
compatibility

- Efficient operations of the occupying organization, taking into account functional relationships of the organization and the location of organizations with which the organization has primary functional relationships
- Vehicular and pedestrian access and other transportation requirements
- Adequate utilities
- Visual considerations such as architectural compatibility and creation of positive sightlines.

3-15. Site Selection. Preparers of the LRFDP, whether they are consultants or installation personnel, should participate with installation planners, command personnel, and other appropriate interested parties such as committees of the Facilities Board/ Planning Board in the evaluation of alternative sites. Preparers of the LRFDP should preliminarily evaluate the assets and liabilities of each alternative site to provide a basis for discussion by the remainder of the planning team. Planning consultants, installation planners, commanders, and other members of the team must then reach a consensus on the appropriate site for each new project. These site selections, which represent the major elements of the LRFDP, must be agreed upon by the installation commander and the Facilities Board/Planning Board if the plan is to be successful. The major command is the final approving authority for all siting and facility programming decisions made at the installation level.

EVALUATE ASSETS & LIABILITIES

4

Implementation

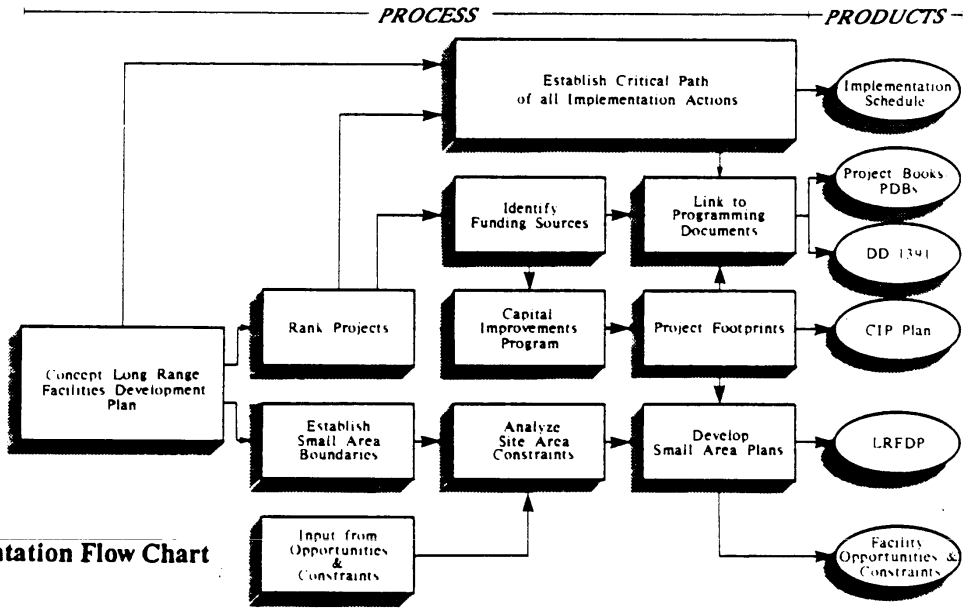
Chapter 4

Implementation

4-1. Reaching Development Goals. The Long Range Facilities Development Plan (LRFDP) is implemented through several different funding sources and mechanisms. Elements of the implementation process are shown on Figure 4.1.

- Establish small area boundaries to illustrate detailed future development
- Identify funding sources
- Identify schedule for completion of projects
- Establish a "critical path" of actions necessary to implement the schedule
- Link LRFDP projects to programming documents
- Establish process for regularly updating the LRFDP to reflect changing missions, conditions, goals and objectives.

These implementation techniques are described in detail below.



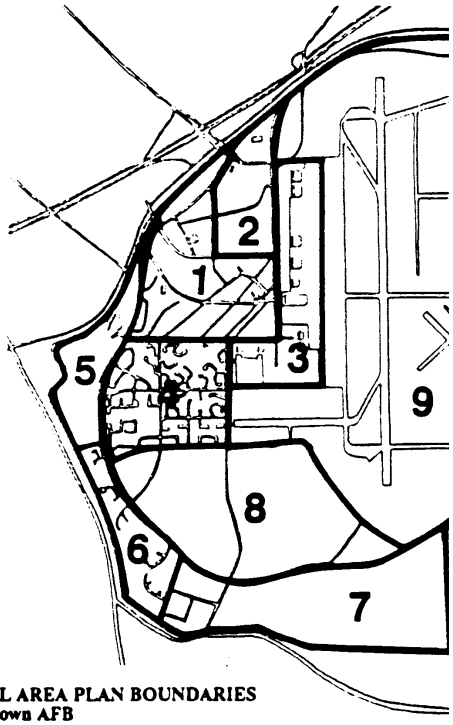
Implementation Flow Chart
Figure 4.1

A. SMALL AREA PLANS

4-2. Tying the Component Plans Together

a. Dividing the installation into small areas is a useful way to illustrate the recommendations of the plan and the ways in which the various component plans are tied together. In addition, identifying small areas and illustrating them at a relatively large scale allows planners to see areas of interest in more detail, which often can result in refinements of siting decisions and a clearer understanding of the way in which facilities will relate to each other and their surrounding environment.

b. The installation should be divided into logical small areas with boundaries determined by major roadways, changes in land use, changes in visual/architectural characteristics, or any other easily identifiable barrier (see Figure 4.2). The entire cantonment area and all other developed areas on the installation, especially those for which development is planned, should be included in the small areas.



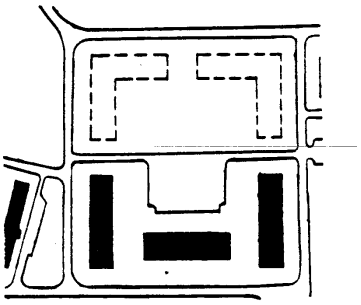
SMALL AREA PLAN BOUNDARIES
Hometown AFB

Figure 4.2

4-3. Planning for Small Areas

SCALE:
1" = 100'

a. For each small area plans should be drawn at a scale large enough to show some detailed site planning for new projects. The plans should be developed at a scale of 1" = 100', but a smaller scale can be used to illustrate the plans if the installation is large.



Show building envelope

Figure 4.3

b. The small area plans should show building envelopes that illustrate the general size of the building and how it might relate to its neighbors (see Figure 43). **This envelope is not intended to represent the actual footprint of the building; that will be determined by the building designers.** However, good site planning principles can be illustrated in this exercise by showing building envelopes oriented properly toward the street and surrounded by the proper amount of open space, parking and pedestrian access. The Installation Design Guide or Architectural Compatibility Guide should provide guidance on massing, form, and layout of structures.

c. Appropriate setbacks also should be shown in the small area plans. These setbacks may have been specified in the Installation Design Guide, Landscape Development Plan, or Architectural Compatibility Plan.

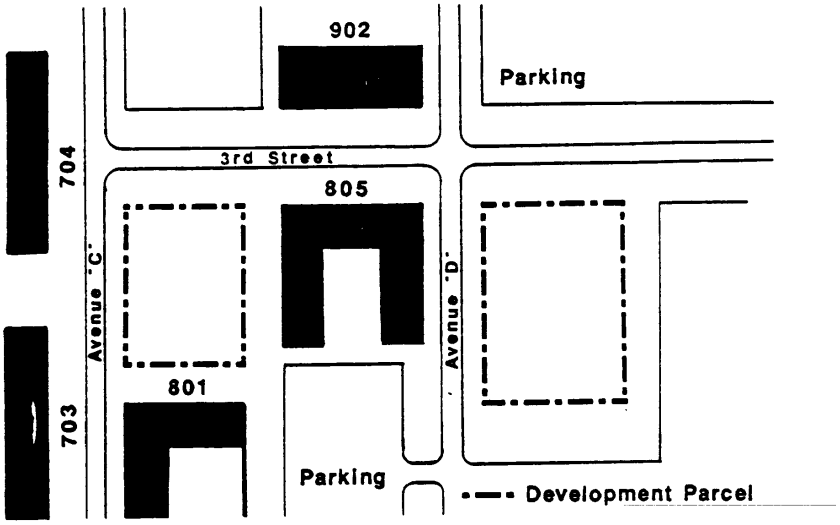
d. Appropriately sized parking lots also should be shown for each new facility. The parking lot should not be designed as part of this exercise, but a general area large enough to accommodate the expected number of cars should be shown to illustrate the amount of space that will be required for the facility. (A rule of thumb of 350 s.f. per car should be used for sizing parking lots.)

ACCOMMODATE PARKING

e. Similarly, areas set aside for plazas, landscape areas, or outdoor displays that are associated with a particular facility may be shown on the detailed plans. Guidelines for these kinds of outdoor amenities may have been provided in the Installation Design Guide (IDG) or the Landscape Development Plan.

IDENTIFY OUTDOOR AMENITIES

f. In areas suitable for development but for which no project has been planned, development parcels should be indicated. A development parcel is defined as a buildable area that is recommended for a specific type of development. Large developable areas should be subdivided into logically sized development parcels; each development parcel should be large enough for one facility or complex. See Figure 4.4.



Indicate development parcels

Figure 4.4

g. The text should describe the following elements for each small area:

- Land use policy (from Land Use Plan).
- Proposed projects.
- Transportation projects (from Transportation Plan).
- Utilities (from Utilities and Communications Plans).
- Architectural design policy (from IDG or Architectural Compatibility Plan).
- Landscape recommendations (from IDG or Landscape Development Plan).

B. ILLUSTRATING THE PLAN

4-4. Required Mapping. The following future development maps are required:

- Long Range Facilities Development Plan
- Facility Opportunities and Constraints- Development Constraints
- Capital Improvements Plan

Guidance for Army mapping is provided in TB ENGR 353. The base for Army LRFDP mapping is the Site Map; for the Air Force, the C-1 Tab.

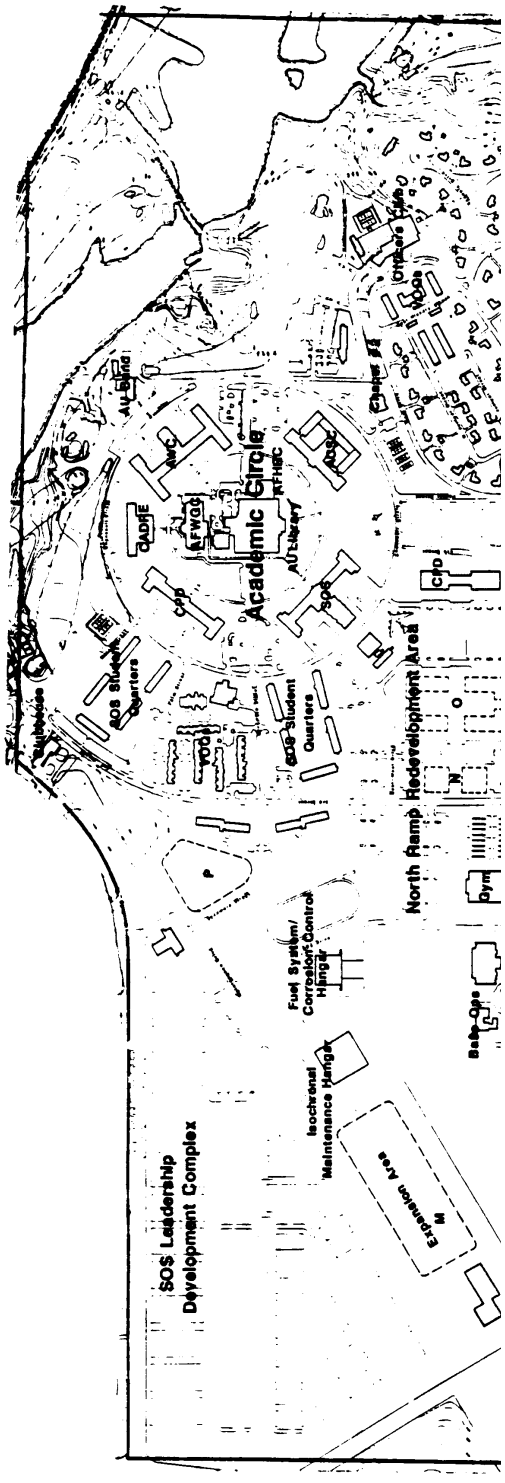
ILLUSTRATES FUTURE DEVELOPMENT

4-5. Long Range Facilities Development Plan.

a. This map illustrates all future development at the installation in the time frame covered by the LRFDP. Buildings scheduled to be destroyed are not shown, and future building envelopes, site plans and development parcels are illustrated.

COMMUNICATES LONG-RANGE VISION OF INSTALLATION

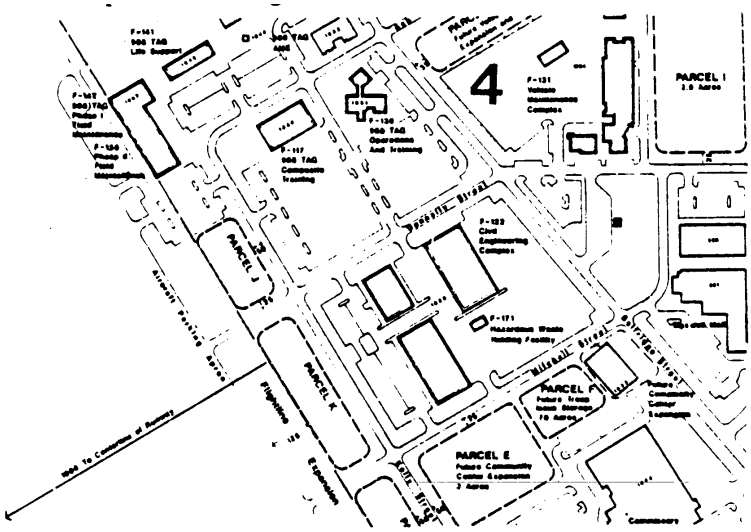
b. After all the site plans have been illustrated on the small area plans (or Army Site Maps), the long-range vision of the installation can be illustrated on an overall plan of new facilities (Air Force Tab M-1.1). These facilities should be illustrated in the same manner as on the small area plans, with appropriate setbacks and orientations. This plan can be used by installation personnel to communicate to the rest of the installation and the civilian community the long-range vision for the development of the installation. See Figure 4.5.



Sample Long Range Facilities Development Pla

Figure 4.5

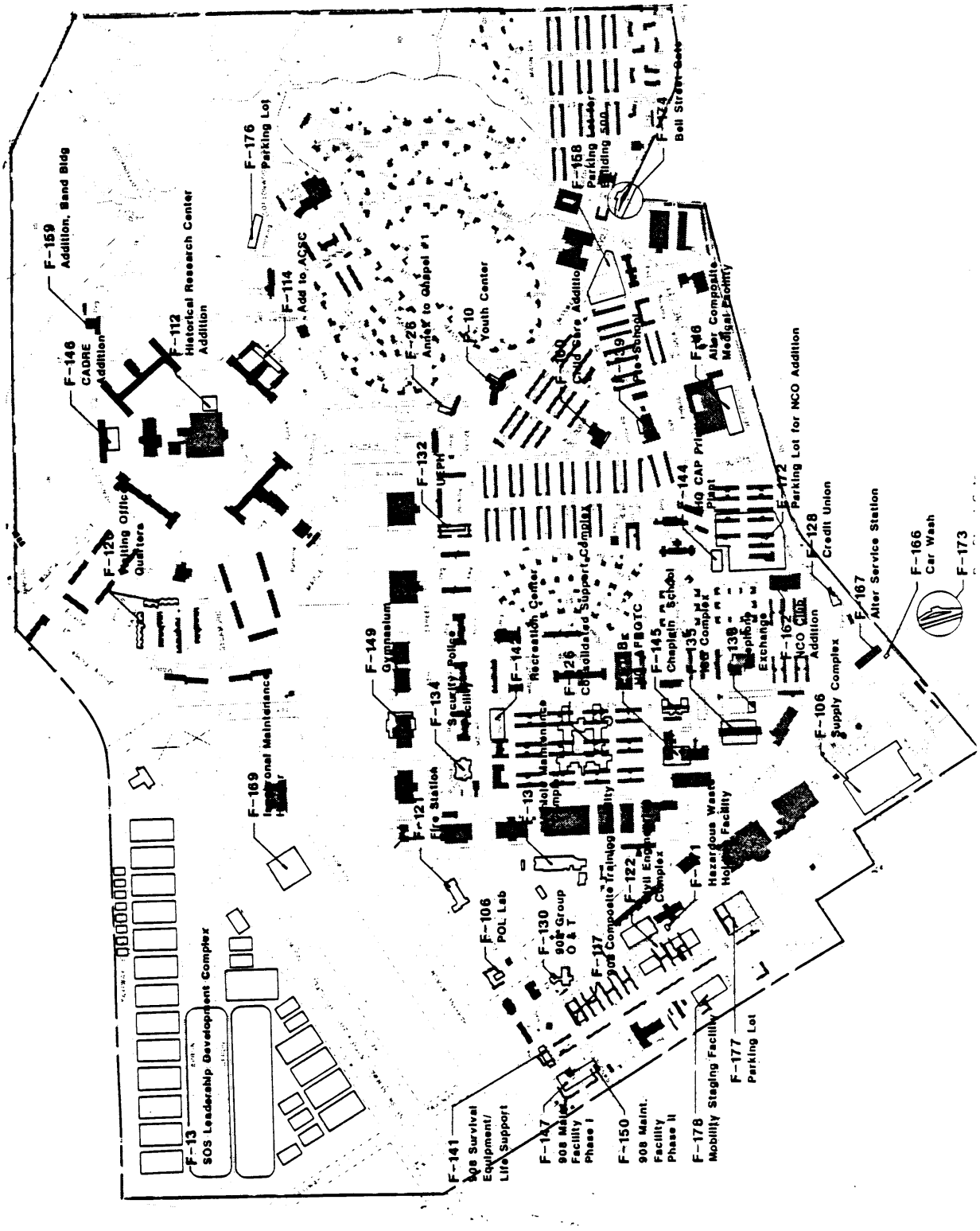
4-6. Facility Opportunities and Constraints. This map illustrates the conditions which constrain and those which allow for development at the installation and should be illustrated at a scale of 1" = 100'; the small area maps can be used as baseline maps if desired. (See TB ENGR 353 for preparation of Army maps.) Constraints illustrated on this map include airfield setbacks and clear zones, explosive quantity-distances, firing range impact areas, flood plains, specified building setbacks along streets, and any other natural or man-made constraints identified in the comprehensive planning process. Development opportunities occur when land becomes vacant as a result of building demolition or road closure and are illustrated as building parcels, with the type of desired development and the required setbacks specified for each parcel. See Figure 4.6.



Opportunities & Constraints Map

Figure 4.6

4-7. Capital Improvements Plan. The Capital Improvements Plan illustrates all MILCON, O&M, MFH/AFH, NAF, and privately funded projects programmed for the time period covered by the Five-Year Defense Plan (Air Force Tab M-3). The Capital Improvements Plan is created by using a screened Long-Range Development Plan as the base map with an overlay depicting at full strength building footprints or envelopes, and project numbers and names for all projects included in the Capital Improvements Program. See Figure 4.7.



Sample Capital Improvements Plan

Figure 4.7

C. FUNDING THE PROJECTS

4-8. Funding Sources.

$ SOURCES

a. Sources for financing projects include the Military Construction Program/Military Construction Army funds (MILCON), Operations and Maintenance (O&M), funds earmarked for Military Family Housing/Army Family Housing (MFH/AFH), Non-appropriated Funds (NAF), and private funds (see Figure 4.8). As described in DoD Directive 4165.6, projects funded through all these sources will be included in the BCP. Once required projects are identified as described in Chapter 3, the appropriate funding source for each project must be identified. These funding sources can be used for:

- Additions to and alteration of existing facilities
- Demolition
- Relocation of activities
- New construction
- Reserves for future construction

b. The various funding sources are described below. (For a more detailed discussion of the funding process, refer to Appendix D.) The dollar limits below are 1988 figures; be sure to verify current funding limits for various proposals.

MAJOR CONSTRUCTION PROJECTS

4-9. MILCON. MILCON projects are major construction projects of over $200,000. These projects can be funded from any of three separate methods described below. All MILCON projects are submitted by the installation to the major command.

a. All projects costing more than $1 million are funded as line items by Congress. These projects go through a five-year funding process beginning with the preparation of DoD Form 1391 (Military Construction Project Data Form). These projects are designed to the 35% stage before they are submitted to Congress for funding.

b. Projects costing between $200,000 and $1 million are not designed prior to funding; page 1 of DoD 1391 describing the justification for the project is submitted to the major command.

c. Projects costing between $200,000 and $1 million that have been identified as urgent are funded annually by each service from a lump sum appropriated by Congress for that purpose.

4-10. O&M. O&M projects are funded by lump sum appropriation to each service, which in turn distributes the funds to each major command. Each O&M project falls into one of the following categories:

OPERATIONS & MAINTENANCE

- Minor construction
- Repair
- Renovation
- Maintenance

4-11. MFH/AFH.

a. Family housing projects are divided into three funding categories:

MILITARY FAMILY HOUSING FUNDING

- Maintenance and repair, which generally includes regular cyclical maintenance such as roof replacement.

maintenance

- Improvements that are made to remedy inadequate housing conditions and may include such major renovations as additions.

improvements

- Acquisition of additional housing units.

acquisition:

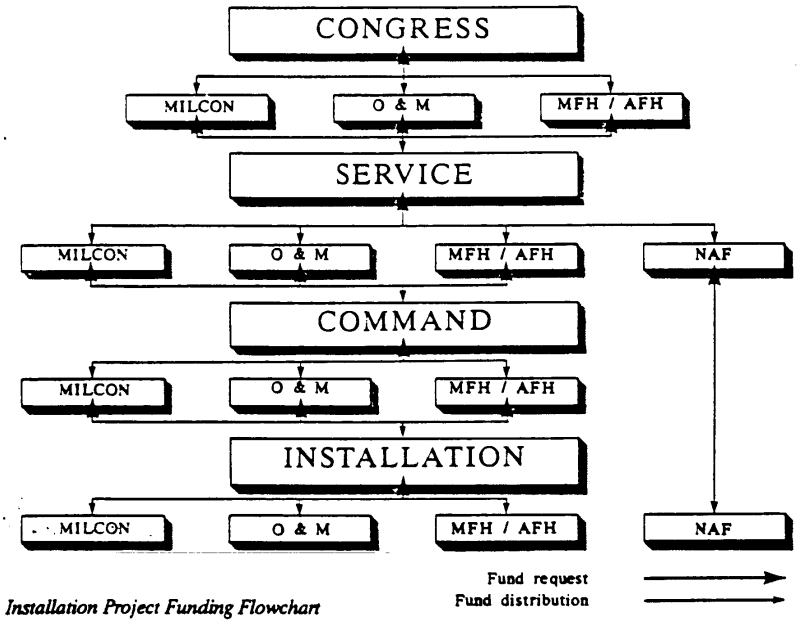
b. Maintenance and repair projects are funded in a lump sum by Congress and distributed to each service, which then distributes the funds to the major commands. Each installation makes an annual request for maintenance funds to the major command.

c. Improvement projects are initiated by the installations and forwarded to major commands. The commands evaluate and rank the requests and forward them to the service, which ranks all requests and submits a request for funding from Congress as part of the overall budget process. All family housing projects that require more than $2,000/unit or more than $200,000 for the entire project fall into this category.

d. The acquisition of additional housing units must be justified by the service because of insufficient or inadequate available housing in the installation's local community. Once a requirement is demonstrated, the housing can be acquired through leasing from the private sector or new construction. All new family housing units are funded by Congress as line items.

NON APPROPRIATED FUNDS

4-12. NAF. NAF projects are funded through the services' shares of revenues generated by facilities such as exchanges and bowling alleys. A portion of the revenue remains at the installation where it is generated, while the remainder of the Government's share is pooled at the service level and redistributed to the installations as the service sees fit. Each service reports to Congress on the annual distribution of these funds.



Installation Project Funding Flowchart

Figure 4.8

D. PHASING

4-13. Setting Priorities

a. The Facilities Development Program formulated in previous phases is intended to be long term, requiring several years for full implementation. Priorities must be assigned to all projects of all types, which leads to a schedule of funding requests for each type of project.

b. Priorities and phasing may also affect or be affected by locational decisions for new projects. As discussed in Chapter 3, Section 3-13, the timing of a project may determine what the available sites are for that project. Conversely, if a particular site is desired for a project, the timing of that project may depend upon when that site will be available for new construction.

SET PRIORITIES

4-14. Estimate Construction Costs. The first step in the phasing of projects is to identify gross estimates of the funding level required for each project. This should be determined by a general $/square foot or other gross estimating technique. The Army Computer-Aided Cost Estimating System is an example of a computer program that can be used to assist in estimating the costs of projects. The Air Force uses the Air Force Pricing Guide.

ESTIMATE COSTS

4-15. Rank Each Project. At the same time, priorities for each funding category must be established. Projects that are essential to the fulfillment of the installation mission should receive the highest priority, with efficiency and personnel and dependent support and environment issues also receiving consideration. Installation administrators and planners must carefully consider the need for each project relative to other projects when ranking all the projects. The project with the highest priority in each funding category will receive a ranking of #1, with all other projects in the same funding category ranked in succession according to the consensus of the planning group. No two projects in the same funding category can be assigned the same priority number. The

RANK PROJECTS

Facilities Board/Planning Board determines project priorities at the installation level. The major command and the service may rearrange installation priorities or add projects to the list generated by the installation. See Table 4.1.

4-16. Estimate Annual Funding Levels. Installation personnel must also judge preliminarily how much funding is likely to be received in each funding category in each fiscal year covered by the LRFDP. This is necessary to be able to set up a funding schedule. For example, if the first MILCON project is estimated to cost $1.4 million, and the level of funding for MILCON projects for any given year is not likely to exceed $1.4 million, then only the first project can be placed in the first year of the plan.

4-17. Formulate the Funding Schedule. Projects should be placed on four separate funding lists in descending priority order, with estimated costs shown in the second column. Once funding levels for each year have been estimated, a year-by-year funding schedule can be easily determined by going down the list and including as many projects in the first year that can be funded with the expected first year funding, the next group that can be funded in the second year in the second year, and so on (see Tables 4.1 and 4.2). Congress will ultimately determine in what year each project will be funded. The final product of this exercise is a list of projects by fiscal year, the Long Range Facilities Development Plan.

E. SHORT RANGE CAPITAL IMPROVEMENTS PROGRAM

4-18. Five-Year Plan. The projects included in the first five years are identified as the Capital Improvements Program. Projects assigned to the 6- to 10-year period can be identified as mid-range projects, and projects scheduled for construction more than 10 years in the future can be identified as long-range projects. The Capital Improvements Program is the same as the Five Year Defense Plan with the addition of O&M, family housing, and NAF projects. See Table 4.3.

ESTIMATE ANNUAL FUNDING LEVELS

FORMULATE FUNDING SCHEDULE

Table 4.1

Funding Schedule

MILCON Projects

Priority	Project	Estimated Costs ($000s)
1	Telephone Exchange	150
2	Warehouse	5,700
3	Consolidated Support Facility	1,900
4	Police Operations	740
5	Precision Measurement Equipment Lab.	540
6	50 Person VOQ	1,330
7	Fire Station	546
8	CE/Vehicle Maintenance	3,200

O&M Projects

1	Add-alter Gym	64
2	Alter UEPH	100

MFH/AFH Projects

1	Upgrade Row Qtrs., Phase 1	345
2	Upgrade Row Qtrs., Phase 2	225
3	Upgrade Row Qtrs., Phase 3	450
4	Upgrade Row Qtrs., Phase 4	390
5	Upgrade Row Qtrs., Phase 5	360
6	Upgrade Row Qtrs., Phase 6	540
7	Improve California Housing Phase 1	1,000
8	Improve California Housing Phase 2	700

NAF/Tenant Projects

1	Expand Child Care Center	88
2	Add-alter Commissary	378
3	Auto Hobby Shop	550
4	Exchange Complex	1,200
5	Youth Center	

Table 4.2

Long Range Facilities Development Plan

LAND USE	FY	DESCRIPTION	SCOPE (SF)	REMARKS
ACADEMIC	95	LIBRARY/MEDIA CENTER		
ADMINISTRATION	88	TELEPHONE EXCHANGE	2,500	
ADMINISTRATION	89	CONSOLIDATED SUPPORT FACILITY	29,300	
ADMINISTRATION	89	POLICE OPERATIONS FACILITY	11,400	
ADMINISTRATION	90	STANDARD SYSTEMS CENTERPH 3	50,000	TENANT-FUNDED
ADMINISTRATION	93	SOUTH GATE RELOCATION		
ADMINISTRATION	99	MOORE DRIVE GATEHOUSE		
COMMUNITY COMMERCIAL	90	ADAL COMMISSARY	5,800	NAF
COMMUNITY COMMERCIAL	90	AUTO HOBBY	11,100	NAF
COMMUNITY COMMERCIAL	92	EXCHANGE COMPLEX & CONCESSIONS	20,000	NAF; ALSO BLDG 814 (CONCESSIONS)
COMMUNITY COMMERCIAL	92	BANK	6,375	
COMMUNITY COMMERCIAL	94	DINING HALL	24,000	
COMMUNITY COMMERCIAL	99	THEATER	17,000	
COMMUNITY COMMERCIAL	99	BOWLING ALLEY	10,750	
COMMUNITY SERVICE	88	EXPAND CHILD CARE CENTER	1,464	NAF
COMMUNITY SERVICE	94	RECREATION CENTER/LIBRARY	19,800	
COMMUNITY SERVICE	95	NCO DISPLAY BUILDING		
FAMILY HOUSING	89	UPGRADE ROW QTRS, PH 1		MFH; 23 UNITS
FAMILY HOUSING	91	UPGRADE ROW QTRS, PH 2		MFH; 15 UNITS
FAMILY HOUSING	92	UPGRADE ROW QTRS, PH 3		MFH; 30 UNITS
FAMILY HOUSING	93	UPGRADE ROW QTRS, PH 4		MFH; 26 UNITS
FAMILY HOUSING	95	UPGRADE ROW QTRS, PH 5		MPH; 24 UNITS
FAMILY HOUSING	%	UPGRADE ROW QTRS, PH 6		MFH; 36 UNITS
FAMILY HOUSING	97	IMPROVE CALIFORNIA MPHPH 1		MPH; 100 UNITS
FAMILY HOUSING	98	IMPROVE CALIFORNIA MPHPH 2		MPH; 70 UNITS
INDUSTRIAL	88	WAREHOUSE	114,000	
INDUSTRIAL	89	PRECISION MEASUREMENT EQUIPMENT LAB	7,200	
INDUSTRIAL	90	FIRE STATION	8,400	
INDUSTRIAL	90	CE/VEHICLE MAINTENANCE COMPLEX	63,850	
INDUSTRIAL	92	FIELD PRINTING PLANT	35,000	
RECREATION	88	ADAL GYM	1,250	O&M
RECREATION	93	PHYSICAL FITNESS CENTER	28,200	
TRANSPORTATION	93	TRANSP/SECURITY/UTIL IMPROVEMENTS	LS	
UNACCOMPANIED HOUSING	89	50 PERSON VOQ	24,250	
UNACCOMPANIED HOUSING	91	ALTER UEPH	304 PN	O&M
UNACCOMPANIED HOUSING	92	VOQ	80 PN	ALSO BLDG 874
UNACCOMPANIED HOUSING	95	VOQ UPGRADE		

Table 4-3

Capital Improvements Program

LAND USE	FY	DESCRIPTION	SCOPE (SF)	REMARKS
Administration	88	TELEPHONE EXCHANGE	2,500	
ADMINISTRATION	89	CONSOLIDATED SUPPORT FACILITY	29,300	
ADMINISTRATION	89	POLICE OPERATIONS FACILITY	11,400	
ADMINISTRATION	90	STANDARD SYSTEMS CENTERPH 3	50,000	TENANT-FUNDED
ADMINISTRATION	93	SOUTH GATE RELOCATION		
COMMUNITY COMMERCIAL	90	ADAL COMMISSARY	5,800	NAF
COMMUNITY COMMERCIAL	90	AUTO HOBBY	11,100	NAF
COMMUNITY COMMERCIAL	92	EXCHANGE COMPLEX & CONCESSIONS	20,000	NAF; ALSO BLDG 814 (CONCESSIONS)
COMMUNITY COMMERCIAL	92	BANK	6,375	
COMMUNITY SERVICE	88	EXPAND CHILD CARE CENTER	1,464	NAF
FAMILY HOUSING	89	UPGRADE ROW QTRS, PH 1		MPH; 23 UNITS
FAMILY HOUSING	91	UPGRADE ROW QTRS, PH 2		MFH; 15 UNITS
FAMILY HOUSING	92	UPGRADE ROW QTRS, PH 3		MFH; 30 UNITS
FAMILY HOUSING	93	UPGRADE ROW QTRS, PH 4		MPH; 26 UNITS
INDUSTRIAL	88	WAREHOUSE	114,000	
INDUSTRIAL	89	PRECISION MEASUREMENT EQUIPMENT LAB	7,200	
INDUSTRIAL	90	FIRE STATION	8,400	
INDUSTRIAL	90	VEHICLE MAINTENANCE COMPLEX	63,850	
INDUSTRIAL	92	FIELD PRINTING PLANT	35,000	
RECREATION	88	ADAL GYM	1,280	O&M
RECREATION	93	PHYSICAL FITNESS CENTER	28,200	
TRANSPORTATION	93	TRANSP/SECURITY/UTIL IMPROVEMENTS	LS	
UNACCOMPANIED HOUSING	89	50 PERSON VOQ	24,250	
UNACCOMPANIED HOUSING	91	ALTER UEPH	304 PN	O&M
UNACCOMPANIED HOUSING	92	VOQ	80 PN	ALSO BLDG 874

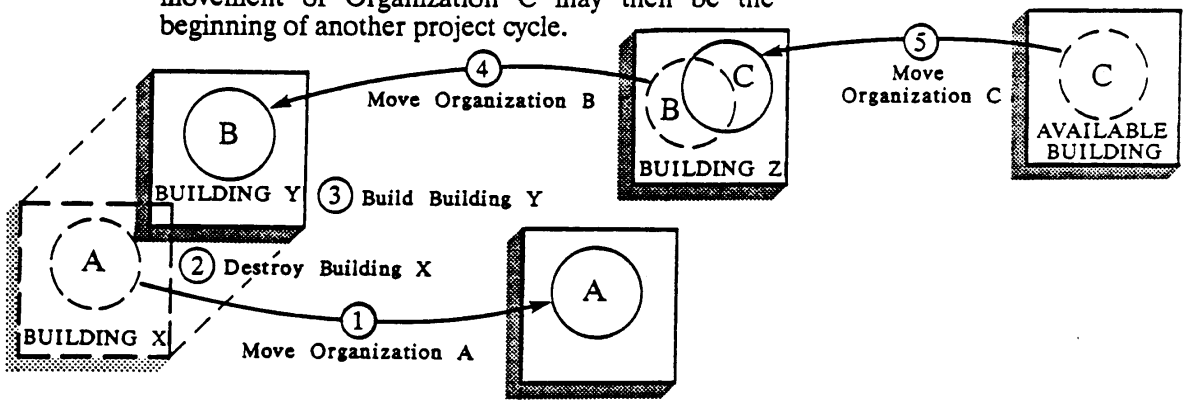
F. IDENTIFY CRITICAL PATH OF ACTIONS FOR IMPLEMENTATION OF THE PLAN

4-19. Planning for Implementation

a. Implementing the LRFDP often involves a complicated, interdependent succession or chain of activities including building demolition, organizational moves, and new construction. These actions must be identified as part of the planning process and monitored throughout the implementation period.

b. The easiest way to develop a schedule of required actions is to start with the first project and list all the actions required for its successful completion. A building may have to be demolished before construction can begin, for example. In that case the occupants of that building will have to be moved out, making their move the first necessary action associated with that project (see Figure 4.9). The list of actions for that project might therefore read like this:

1) Move Organization A out of Building X
2) Demolish Building X
3) Construct Building Y at former site of Building X
4) Move Organization B from Building Z into Building Y
5) Demolish Building Z (or move Organization C into Building Z) The demolition of Building Z or the movement of Organization C may then be the beginning of another project cycle.



Critical Path of Actions Plan Implementation
Figure 4.9

c. Once all the necessary actions have been identified, dates can be assigned to each action or group of actions. This then becomes the schedule that installation planners can use to track the progress of the plan and ensure its orderly implementation. A portion of a sample schedule is illustrated on Table 4.4, which shows all actions needed with columns for Acting Organization; Building # Moved From; Building # Moved To; Remarks (explanation of the action); Start and Completion Dates; and the "Chain." Each chain consists of all interdependent actions; Chain A is a self-contained series of actions that are needed to move an organization into a new facility. Chain B includes another group of actions, Chain C another group, and so on.

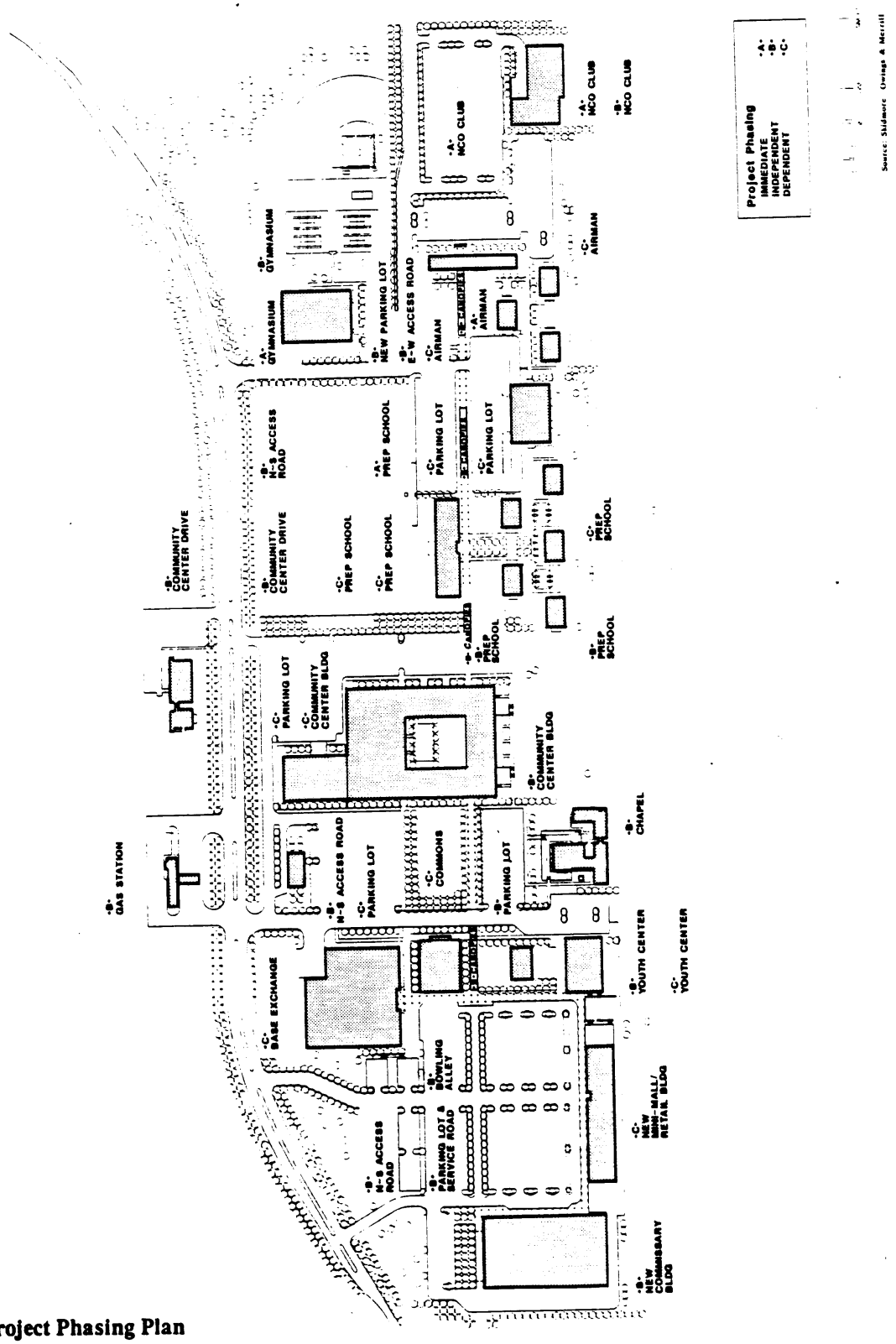
FOLLOW CHAIN REACTIONS

d. This schedule of actions and reactions also is invaluable in readjusting construction, demolition, and moving schedules. Congress ultimately determines when projects will be implemented, and the funding often "slips" into later years than originally envisioned in the LRFDP. When the construction of a building is delayed, for example, it is a relatively easy task to follow the chain reaction and identify which other projects will be affected by the change in schedule. The overall schedule of actions can then be modified accordingly.

Table 4.4
Schedule of Actions

SORTED BY CHAIN AND COMPLETE DATE. CONTAINS CHANGES MADE 10/26/87. 10/30/87

ACT.ORG	FROM	TO	REMARKS	START.DATE	COMPL.DATE	CHAIN	DONE?
MCP/88	0	832	CONSTRUCT NEW ECI BLDG 832 (JUBJ 870262)	01/01/88	04/04/89	A	
TEL	0	832	COMM SUPPORT MCP/88 BLDG 832	03/01/89	04/05/89	A	
ECI	841	832	ECI MOVES FROM BLDG 841 TO BLDG 832	04/05/89	04/30/89	A	
ECI	216	832	ECI MOVE FROM 216 TO ECI/MCP BLDG 832	04/05/89	04/30/89	A	
ECI	206	832	ECI MOVE FROM 206 TO ECI/MCP BLDG 832	04/05/89	04/30/89	A	
ECI	839	832	ECI WHSE MOVES FROM BLDG 839 TO BLDG 832	04/05/89	04/30/89	A	
ECI	403	832	MOVE ECI TO 832	04/05/89	04/30/89	A	
ECI	220	832	ECI MOVE FROM 220 TO ECI/MCP BLDG 832	04/05/89	04/30/89	A	
ECI	222	832	ECI MOVE FROM 222 TO ECI/MCP BLDG 832	04/05/89	04/30/89	A	
XX	0	206	DESTROY 206 (ECI)		05/01/89	A	
XX	0	220	DESTROY 220 (ECI)		05/01/89	A	
XX	0	841	DESTROY 841 (ECI)		05/01/89	A	
XX	0	839	DESTROY 839 (ECI)		05/01/89	A	
XX	0	216	DESTROY 216 (ECI)		05/01/89	A	
XX	0	222	DESTROY 222 (ECI)		05/01/89	A	
ECI	830	832	MOVE FROM WAREHOUSE BLDG 830 TO NEW ECI/MCP BLDG 832 (CONVERT IN AA)	04/05/89	05/30/89	A	
XX	0	403	DESTROY 403 (ECI)		07/01/91	A	
DE	0	830	CONVERT BLDG 830 TO MWR STORAGE/THRIFT SHOP/PKG STR/MWR CKOUT	06/01/89	10/30/89	AA	
XX	0	822	DESTROY BLDG 822 (NOT REQUIRED DUE TO BLDG 830 MOD) CE		11/01/89	AA	
XX	0	831	DESTROY BLDG 831 (NOT REQUIRED DUE TO BLDG 830 MOD) CE		11/01/89	AA	
MWR	861	830	MOVE PKG STORE FROM 861 TO 830	11/01/89	11/30/89	AA	
MWR	809	830	NAF STORAGE TRANSFERRED FROM BLDG 809 AND 716 TO BLDG 830	11/01/89	11/30/89	AA	
MWR	716	830	NAF STORAGE TRANSFERRED FROM BLDG 716 TO BLDG 830 (DESTROY IN ZA)	11/01/89	11/30/89	AA	
MWR	810	830	MOVE MWR STORAGE AND CHECK OUT FROM 810 TO 830	11/01/89	11/30/89	AA	
MWR	850	830	MOVE THRIFT SHOP (BLDG 850) TO 830 (DESTROY 850 IN CHAIN WA)	11/01/89	11/30/89	AA	
XX	0	810	DESTROY BLDG 810 (MWR STORAGE AND CHECK OUT)		12/01/89	AA	
XX	0	809	DESTROY BLDG 809 (MWR STORAGE)		12/01/89	AA	
XX	0	861	DESTROY BLDG 861 (PACKAGE STORE)		12/01/89	AA	
DE	0	1110	REHAB DINING HALL FOR O'CLUB PATRONS	09/01/85	09/30/85	AB	Y
MWR	302	1110	O'CLUB MOVES FROM 302 TO 1110 (PATRONS USE DINING HALL)	10/01/85	10/03/85	AB	Y
MWR	860	302	NCO CLUB MOVE FROM BLDG 860 TO BLDG 302	10/04/85	10/15/85	AB	Y
DE	0	860	REHAB 860 TO O'CLUB	10/16/85	12/15/85	AB	Y
MWR	1110	860	O'CLUB MOVE FROM BLDG 1110 TO BLDG 860	12/16/85	12/17/85	AB	Y
DE	0	302	REHAB 302 FOR NCO CLUB (LOUNGE ONLY)	10/16/85	12/19/85	AB	Y
MCP/93	0	899	CONSTRUCT NEW BLDG FOR LMC (PNOS 913021)	01/01/93	07/01/94	AC	
LMC	205	899	LMC MOVE FROM BLDG 205 TO NEW MCP BLDG 899	07/01/94	07/31/94	AC	
XX	0	205	DESTROY 205 (LMC)		08/01/94	AC	
MCP/91	0	0	CONSTRUCT NEW BLDG FOR CIV PERS SCH AT MAX (CPD FAC) (PNOS 913012)	01/01/91	05/31/92	AD	
XX	0	322	DESTROY BLDG 322 (CIV PERS SCHOOL)		07/01/92	AD	
AUCPD	322	0	MOVE CIV PERS SCHOOL FROM BLDG 322 GUN TO NEW MCP BLDG, MAXWELL	06/01/92	07/01/92	AD	
DE	0	712	PREP BLDG 712 FOR 2000TH MET	10/01/85	11/01/85	B	Y
TEL	0	712	INSTALL TELEPHONE FOR 2000TH MET BLDG 712	10/28/85	11/08/85	B	Y
DSDO	1050	712	2000TH MET FROM 1050 TO AFDEMET BLDG 712	11/02/85	11/17/85	B	Y
MCP/85	0	856	SSC MCP PH I	06/01/85	11/01/87	C	



Project Phasing Plan

Figure 4.10

Table 4-5

Project Phasing Schedule

	Demo-lition SF	Remodel-ing NSF	New Const. NSF	Cost	Demc-lition SF	New Parking/ Roads SF	Land scape SF	Walks SF	Trees NUM	Cost
I. IMMEDIATE										
A. None										
II. INDEPENDENT										
A. New Prep School dorm (3 stories)			10,778							
1. Landscaping							4,768			
2. Trees									16	
3. Walks								2,333		
B. Landscape Projects										
1. Remove existing paths					3,268					
2. Plant trees at dorms									37	
3. Plant trees along parade grounds.									28	
C. Road Modifications										
1. Widen N-S road E. of parade grounds						7,160			23	
2. Widen median strip, N. side of Comm. Ctr. Dr.								34,529		
50										
III. DEPENDENT										
A. Prep School										
1. New 1-story admin./classroom bldg.	47,027		14,187							

e. Another way of illustrating the interdependency and phasing of projects is shown on Figure 4.10. Projects are identified as immediate, independent, or dependent on other actions. An accompanying table, a portion of which is shown on Table 4.5, includes a brief description of actions needed to implement each project.

G. LINKS TO PROGRAMMING DOCUMENTS

4-20. Executing the Projects

a. Major projects in all four funding categories generally follow the same implementation process. Once a project has been approved at the installation level, the front page of a DD Form 1391 is prepared and submitted to the major command. After the project is included by the major command or the service in the five-year plan, the Project Book/Project Development Brochure is prepared, specifying in detail the location, architectural character, landscape character, utilities, special construction considerations, soil and foundation conditions, physical security requirements, user requirements, and functional layouts for the project. The

Project Book/Project Development Brochure is used by the Architect/Engineer who prepares the Concept Design (35%) before major projects are funded.

b. Smaller O&M projects that will be executed by installation personnel are programmed by the installation through a work request (DA Form 4283, AF Form 332). This form includes a description of the need for the project as well as a description of the project itself.

H. UPDATING THE PLAN

4-21. Keeping up with Changes

a. The Base Comprehensive Plan/Master Plan is intended to be a dynamic, flexible document that can respond to changes in base priorities or missions. It is the responsibility of the Planning Board/Facilities Board to ensure that all facilities are sited in conformance with the ongoing Five Year Defense Plan (FYDP). The FYDP process, in which the command structure and Planning Board/Facilities Board are directly involved, is the vehicle for ensuring the implementation of the comprehensive plan. Conditions and priorities can drastically change over a period of years, however, and the plan should be updated periodically to reflect those changes.

b. As with all other component plans, the LRFDP should be comprehensively updated at least every five years. In effect, however, the LRFDP will need to be updated every time a change in plans for any type of facility occurs. These changes Will result from the identification of new facilities that are needed, the postponement of a project from one fiscal year to another, project revisions due to changes in mission, changes in installation or command priorities, or any other change in priorities or strategies that results in a change in facilities planning.

LRFDP CONTINUALLY UPDATED

c. Aside from these piecemeal changes in the plan, it should be comprehensively evaluated every five years to determine its suitability and compatibility with current base goals and priorities. The Planning Board/Facilities Board should continually monitor the plan (as well as the Land Use Plan and other related documents) to ensure its appropriateness to current conditions and priorities. This planning board has a comprehensive knowledge of installation conditions and priorities and can therefore easily review the plan and update where necessary. If there is no group with a good ongoing knowledge of the plan and its implementation, the updating of the LRFDP will be a much more involved task. An on-installation task force will have to be formed and charged with the task of updating the plan, or a consultant will be hired to perform the update.

COMPREHENSIVELY EVALUATE EVERY 5 YEARS

d. The entire LRFDP should be closely examined and updated to reflect new long-range planning goals, replacement of facilities that may have become obsolete, and all other changes in priorities or conditions. This will involve a review of all organizations' current space and requirements, functional relationships, and future plans for expansion or contraction of functions and numbers of employees. The list of projects will then be amended to reflect any changes that are suggested by the review of these conditions.

4-22. Monitoring the Implementation Process. Another important aspect of keeping the plan current is monitoring the timely implementation of the plan's recommendations. The installation planner or other qualified individual should be charged with the task of continually monitoring the list of actions required to implement the plan (described in Section 4-16 above) and the completion of individual projects to ensure the timely progress of the entire process. The monitoring of this list of actions will ensure the successful implementation of the plan in the appropriate time frame.

A

Appendixes

Appendix A

Sample Long Range Facilities Development Plan

The following Long Range Facilities Development Plan was prepared as part of the Base Comprehensive Plan for Maxwell Air Force Base in 1986. It is provided here as an example LRFDP that illustrates the process described in the main body of this document.

INTRODUCTION

The purpose of the Long Range Development Plan is to ensure that future new construction and the use and renovation of existing facilities and systems support and implement the Land Use Plan.

The ultimate long range plan portrays relocations of some base activities into new or renovated facilities. **It** also describes proposed demolition and facility replacement beyond the current Five-Year Defense Plan. Major new construction expected in the identified long-range period (approximately 20 years) is also recommended by the Long Range Development Plan and is illustrated basewide on Figure 7.1. Figure 7.2 illustrates in greater detail future development proposals for the central area of the base.

Table 7.1 summarizes all the projects which comprise the Long Range Development Plan and is organized sequentially by fiscal year. Reference is made on this table to the area where the project is sited (small area), land use category, Tab M-3 number, building number and scope.

Recommendations proposed in the Long Range Development Plan are organized into short to mid and long-range time frames. Short to mid-range is defined as FY 86 through FY 94. Recommendations after the FY 94 time frame are considered to be long-range proposals.

The implementation of the Long Range Development Plan has relied and should continue to rely heavily upon the "chains" developed by the Facilities Requirements Panel. While these chains identify actions which are necessary for the successful completion of all relocations and proposed new construction and include demolition actions, the Long Range Development Plan narrative (Section 7.3) emphasizes implementation programs, policies and strategies by planning district which support the Future I-and Use Plan.

The Capital Improvements Program, derived from the Long Range Development Plan, defines, describes and locates specific projects for the period FY 86 through FY 94. These projects are illustrated on Figure 7.3 and summarized on Table 7.2 in the same format as table 7.1. However, this table organizes the projects sequentially by Tab M-3 reference number.

LONG RANGE DEVELOPMENT PLAN SUMMARY

The Long Range Development Plan incorporates identified goals and is the framework within which all future planning decisions and facility sitings should be made (see Figures 7.1 and 7.2, and Table 7.1). Major features of the plan include:

- Creation of a mixed use core bounded by Ash Street on the north, 3rd Street on the east, Avenue C on the south and 1st Street on the west. The mixed use core will contain Air University Headquarters, ROTC Headquarters academic buildings, ABW administrative functions in a consolidated facility, and community facilities. The core is characterized as a pedestrian, campus-like environment.

- Retention of areas which are well located in terms of accessibility and function, including Academic Circle, family housing east of 3rd Street, unaccompanied housing, most recreation facilities, federal prison complex, medical complex, airfield and flightline. These areas may need further development or modification, but no change in land use or major relocation of facilities is recommended.

- Removal of non-air mission activities from the flightline and dedication of all existing flightline areas for future air mission expansion.

- Dispersal of community service facilities to create neighborhood service centers serving family and unaccompanied housing areas.

- Rerouting of east-west cross-base traffic to Ash Street, with Ash connecting across the existing apron to Randolph Street.

- Collocation of the vehicle maintenance and civil engineering complexes south of Ash Street between 1st and Kelly Streets.

- Dedication of the closed airfield pavement area southwest of Chennault Circle (north ramp redevelopment area) for future expansion of academic facilities, unaccompanied housing, and recreation facilities.

- Location of the gym along the eastern edge of the flightline to provide a buffer between airfield activities and future unaccompanied housing areas.

- Relocation, in the long term, of the isochronal maintenance hangar to the flightline expansion area.

- Creation of a community service center in the area defined by Building 1 and Chapel #1. Functions housed in Building 1 will include arts and crafts and youth center activities.

- Location of child care, preschool and youth athletic facilities in a neighborhood center in the area between Cedar and 8th Streets.

- The replacement of the north 2nd Street extension with the extension of 3rd Street north across the north ramp redevelopment area, and the reconfiguration of and addition to the street network in this vicinity to open up the area to improved uses.

- Upgrading of all three gates in order to be able to accommodate a higher level of security without adverse impacts on capacity and delay.

Figure 7.1

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CENTRAL BASE AREA FUTURE DEVELOPMENT

Figure 7.2

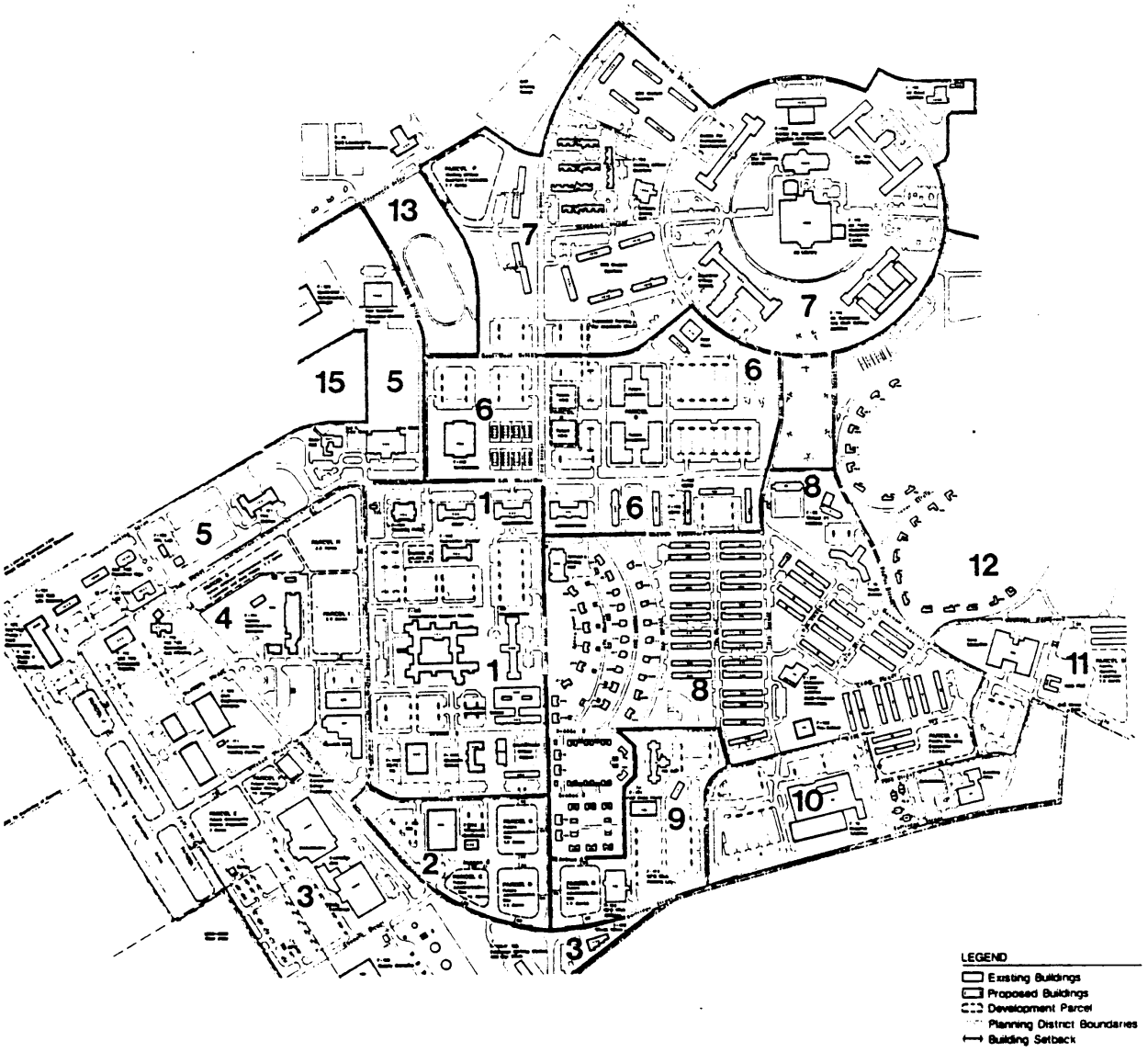

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Table 7.1

DIST.	TAB #	FY	BLDG #	DESCRIPTION	(SF)	LAND USE
		86		Alter Electrical Dist System		Industrial
7	F-120	86	multi	Visiting Officers Quarters (80 PN)	38,000	Housing Unaccomp
14	F-151	86		Landscape Building	3,000	Prison
14	F-132	86	1274	Federal Prison Dormitory (160 PN)	35,000	Prison
14	F-133	86	1276	Mechanical Shop	8,700	Prison
11	F-158	86	500	Parking Lot for Building 300 (SY)	5,600	Administrative
7	F-159	86	1430	Addition, Band Building	2,000	Administrative
9	F-172	86		Add NCO Club Parking Lot (SY)	5,100	Community Commercial
15		87	3041	Install Lights Assault Strip		Airfield
3	F-128	87	1133	Credit Union	5,400	Community Commercial
9	F-162	87	742	NCO Club Addition	1,200	Community Commercial
3	F-167	87	1112	Alter Service Station	4,116	Community Commercial
8	F-160	87	25	Child Care Addition	1,220	Community Service
4	F-131	87	1054	Vehicle Maint Complex	42,750	Industrial
3		87	1033	Renovate Perishable Warehouse		Industrial
14	F-134	87		Captain's Office	8,000	Prison
13	F-163	87	1315	Addition, Golf Course Building	3,200	Recreation
13	F-013	87	1425	SOS Leadership Development Complex	14,425	Recreation
13	F-164	87		Golf Course Maint Building	11,200	Recreation
* 6		87		Construct Road N. from Ash to SOS		Transportation
* 7		87		Extend Sycamore St. West PH 1		Transportation
7	F-114	88	1402	ACSC Addition	17,600	Academic
1	F-134	88	854	Security Police Facility	13,700	Administrative
1	F-126	88	804	Consolidated Support Facility	124,000	Administrative
4	F-130	88	1031	908 Group Operations & Training	19,600	Aircraft Ops & Maint
3	F-166	88	1111	Car Wash	850	Community Commercial
8		88	multi	Upgrade NCO Qtrs, PH 1 (20 units)		Family Housing
11		88	multi	Upgrade Row Qtrs, PH 1 (36 units)		Family Housing
6	F-132	88	684	UEPH (75 PN)	23,713	Housing Unaccomp
2	F-133	88	942	Telephone Exchange	4,000	Industrial
3	F-106	88	1108	Supply Complex & POL Lab Bldg.	151,250	Industrial
4	F-171	88	1039	Hazardous Waste Holding Facility	1,800	Industrial
16	F-170	88	1143	Upgrade Fire Training Facility		Industrial
14	F-156	88		Services Building	8,000	Prison
14	F-155	88		Control Office and Auditorium	15,000	Prison
16	F-161	88	1132	Circular Pavilion	2,000	Recreation
16	F-163	88	1131	Rectangular Pavilion	1,500	Recreation
16	F-175	88		Recreation Courts, Base Lakes		Recreation
* 3		88		Reconst. Intersect. 1st/Selfridge/Ave C		Transportation
12	F-176	88	157	Construct 125 Parking Spaces	Transportation	
*		88		Pedestrian System Improvements	Transportation	
* 1		88		Close 2nd St. between Ash & Ave C	Transportation	
* 3		88		Widen Selfridge bet. 1st & Chanute	Transportation	
* 4		88		Extend Ash Street Across the Ramp	Transportation	
3	F-177	88		Construct Parking Lot N. of Commissary	Transportation	
11	89	multi		Upgrade Row Qtrs, PM 2 (50 units)		Family Housing
12	89	multi		Upgrade General Officer Qtrs (6 units)		Family Housing
6	89	1433		Alter SOS Qtrs. PH 1 (162 PN)	49,186	Housing Unaccomp

* Denotes project recommended by this BCP effort.

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LONG RANGE DEVELOPMENT PLAN (continued)

Table 7.1
(cont'd)

DIST.	TAB #	FY	BLDG #	SCOPE DESCRIPTION	(SF)	LAND USE
4	F-117	89	1056	908 Composite Training Facility	15,000	Aircraft Ops & Maint
5	F-121	89	1057	Fire Station	15,300	Industrial
4	F-122	89	1055	Civil Engineering Complex	94,900	Industrial
7	F-146	89	1400	CADRE Addition	30,000	Academic
15		90		Replace Taxiway Ramp (SY)	111,200	Airfield
5	F-141	90	1045	908 Life Support/Survival Equipment	8,000	Aircraft Ops & Maint
8	F-026	90	3	Chapel No. 1 Annex	4,000	Community Service
* 8	F-010	90	1	Youth Center	17,175	Community Service
12		90	multi	Upgrade Senior Officer Qtrs, PH 1 (47)		Family Housing
8		90	multi	Upgrade NCO Quarters, PH 2 (22 units)		Family Housing
6		90	multi	Alter SOS Qtrs PH 2 (162 PN)	49,186	Housing Unaccomp
2	F-135	90	941	ISG Complex	38,700	Industrial
* 10		90		Reconstruct Selfridge & Pine		Transportation
* 2		90		Extend Avenue D to Chanute/Selfridge		Transportation
* 12		91		Maxwell/Magnolia/Poplar Intersection		Transportation
* 10		91		Additional Parking West of Hospital		Transportation
8		91	multi	Upgrade Row Quarters, PH 3 (56 units)		Family Housing
6		91	multi	Alter SOS Qtrs PH 3 (162 PN)	49,186	Housing Unaccomp
1	F-142	91	805	Recreation Center	28,000	Community Commercial
5	F-147	91	1069	908 Maint. Facility PH 1	30,000	Aircraft Ops & Maint
6		92	multi	Alter SOS qtrs. PH 4 (162 PN)	49,339	Housing Unaccomp
12		92	multi	Upgrade Senior Officer Qtrs, PH 2 (46)		Family Housing
8		92	multi	Upgrade NCO Quarters, PH 3 (22 units)		Family Housing
3	F-136	92	1141	Alter Utilities and Roads		Administrative
1	F-145	92	940	Chaplain School	14,000	Administrative
	F-148	92	900	AFROTC Headquarters	45,000	Administrative
5	F-150	92	1069	908 Maint. Facility PH 2	20,000	Aircraft Ops & Maint
* 3	F-173	92	1129	Day Street Gate		Transportation
* 10	F-174	92	84	Bell Street Gate		Transportation
7	F-112	93	1405	Historical Research Center	30,000	Administrative
8		93	multi	Upgrade Row Quarters, PH 4 (50 units)		Family Housing
6		93	multi	Alter SOS Qtrs. PH 5 (162 PN)	49,186	Housing Unaccomp
9	F-144	93	790	CAP Print Plant	12,000	Industrial
6		93	1410	Alter Four Chillers & Boiler		Industrial
8		94	multi	Upgrade Row Qtrs, PH 5 (56 units)		Family Housing
10	F-016	94	50	Alter Composite Medical Facility	123,455	Medical
8	F-139	94	23	Pre School	10,000	Community Service
6	F-149	94	858	Gymnasium	35,000	Recreation
* 6		94		Extend 3rd Street North Across Ramp		Transportation
* 7		94		Reconst. Chennault/8th/Poplar Intersect		Transportation
* 6		94		Close Maple St. from Sycamore to 8th		Transportation
* 6		94		Const. East-west Rd. from Gym to Circle		Transportation
11		96		Carports (28 units)		Family Housing
* 5	F-169	96	1455	Isochronal Maint Hangar		Aircraft Ops & Maint
* 7		96		Extend Sycamore St. to the West PH 2		Transportation
* 5	F-178	96		Mobility Staging Facility		Industrial

* Denotes project recommended by this BCP effort.

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CAPITAL IMPROVEMENTS PROGRAM

The Capital Improvements Program (CIP) consists of the projects programmed for the years 1986-1994. Most of the specific projects in the Long Range Development Plan are included in the CIP. Development of all of the future development parcels indicated in the Long Range Development Plan will occur after 1994; therefore, they are not included in the Capital Improvements Program. In general, the CIP identifies short to mid-term future development, while the Long Range Development Program includes the short to mid-term projects as well as all other future development planned for the next 20 years. See Figure 7.3 and Table 7.2.

The implementation of the CIP will achieve the creation of the mixed use core, as well as consolidated ISG, Supply, Civil Engineering, Security Police, 908th TAG, SOS Outdoor Training, and Vehicle Maintenance complexes. Other projects included in the CIP are community facilities such as the Credit Union, Recreation Center, Youth Center, and Preschool. Two new VOQs and one UEPH will also be constructed to accommodate housing needs of unaccompanied personnel.

Additions to and renovation of many facilities are also included in the CIP. Additions will be made to ACSC, CADRE, and the Historical Research Center, all located in the Academic Circle. Most family housing will be upgraded, including row housing and Senior Officers Quarters. VOQs west of Academic Circle will also be renovated.

Several transportation projects are part of the CIP, including improvements to the Kelly, Day, and Bell Street gates to allow for higher security levels and reduce congestion at adjacent off- base intersections. Ash Street will be extended across the west apron, Avenue D will be extended to intersect with 1st Street, the intersection of 1st, Selfridge and Avenue C will be improved, and the Pine-Selfridge-Maxwell Boulevard intersection will be upgraded. Other streets will be closed to accommodate new projects, including Peach, 2nd, Hawthorn, and Barksdale.

The projects included in the CIP are indicated on Figure 7.3, and are listed in Table 7.2.

PLANNING RECOMMENDATIONS BY SMALL AREA

For the purpose of describing all recommendations of the Long Range Plan, small areas corresponding to functional use areas and related physical boundaries have been established and are illustrated on Figure 7.4. These small areas should be used for all future reference to short, mid and long-range planning proposals.

For each small area, goals for development and implementation are established; specific land use policies are stated to ensure the effective achievement of the proposed Future Land Use Plan; proposed facilities are sited; future development parcels are identified; and specific implementation strategies and phasing are recommended including all major new construction, demolition, transportation framework and pedestrian and landscape improvements. Readers of the Long Range Development Component Plan should refer to Figure 7.1, the Long Range Development Plan, for an entire base overview of all future and proposed development including identification of future development parcels.

Table 7.2

DIST.	TAB #	FY	BLDG #	DESCRIPTION	SCOPE (SF)	LAND USE
* 8	F-010	90	1	Youth Center	17,175	Community Service
13	F-013	87	1425	SOS Leadership Develop. Complex	14,525	Recreation
10	F-016	94	50	Alter Composite Medical Facility	123,445	Medical
8	F-026	90	3	Chapel No. 1 Annex	4,000	Community Service
3	F-106	88	1108	Supply Complex & POL Lab Building	151,250	Industrial
7	F-112	93	1405	Historical Research Center	30,000	Administrative
7	F-114	88	1402	ACSC Addition	17,600	Academic
4	F-117	89	1056	908 Composite Training Facility	15,000	Aircraft Ops. & Maint
7	F-120	86	multi	Visiting Officers Quarters (80 PN)	38,000	Housing Unaccomp
5	F-121	89	1057	Fire Station	15,300	Industrial
4	F-122	89	1055	Civil Engineering Complex	94,900	Industrial
1	F-126	88	804	Consolidated Support Facility	124,000	Administrative
3	F-128	87	1133	Credit Union	5,400	Community Commercial
4	F-130	88	1051	908 Group Operations & Training	19,600	Aircraft Ops. & Maint
4	F-131	87	1054	Vehicle Maint Complex	42,750	Industrial
6	F-132	88	684	UEPH (75 PN)	25,715	Housing Unaccomp
2	F-133	88	942	Telephone Exchange	4,000	Industrial
1	F-134	88	854	Security Police Facility	13,700	Administrative
2	F-135	90	941	ISG Complex	3,8700	Industrial
3	F-136	92	1141	Alter Utilities and Roads		Transportation
8	F-139	94	23	Pre School	10,000	Community Service
5	F-141	90	1045	908 Life Support/Survival Equip.	8,000	Aircraft Ops & Maint
1	F-142	91	805	Recreation Center	28,000	Community Commercial
9	F-144	93	790	CAP Print Plant	12,000	Industrial
1	F-145	92	940	Chaplain School	14,000	Administrative
7	F-146	89	1400	CADRE Addition	30,000	Academic
5	F-147	91	1069	908 Maint. FacilityPH 1	30,000	Aircraft Ops & Maint
1	F-148	92	900	AFROTC Headquarters	45,000	Administrative
6	F-149	94	858	Gymnasium	35,000	Recreation
5	F-150	92	1069	908 Maint. FacilityPH 2	20,000	Aircraft Ops & Maint
14	F-151	86		Landscape Building	5,000	Industrial
14	F-152	86	1274	Federal Prison Dormitory (160 PN)	35,000	Prison
14	F-153	86	1276	Mechanical Shop	8,700	Prison
14	F-154	87		Captain's Office	8,000	Prison
14	F-155	88		Control Office and Auditorium	15,000	Prison
14	F-156	88		Services Building	8,000	Prison
11	F-158	86	500	Parking Lot for Building 500 (SY)	5,600	Administrative
7	F-159	86	1450	Addition, Band Building	2,000	Administrative
8	F-160	87	25	Child Care Addition	1,220	Community Service
16	F-161	88	1132	Circular Pavilion	2,000	Recreation
9	F-162	87	742	NCO Club Addition	1,200	Community Commercial
16	F-163	88	1131	Rectangular Pavilion	1,500	Recreation
13	F-164	87		Golf Course Maint Bldg.	11,200	Recreation
13	F-165	87	1315	Addition, Golf Course Bldg.	3,200	Recreation
3	F-166	88	1111	Car Wash	850	Community Commercial
3	F-167	87	1112	Alter Service Station	4,116	Community Commercial
* 5	F-169	96	1455	Isochronal Maint Hangar		Aircraft Ops & Maint
16	F-170	88	1143	Upgrade Fire TrainingFac.		Industrial
4	F-171	88	1059	Hazardous Waste HoldingFac.	1,800	Industrial
9	F-172	86		Add. NCO Club Parking Lot (SY)	5,100	Community Commercial

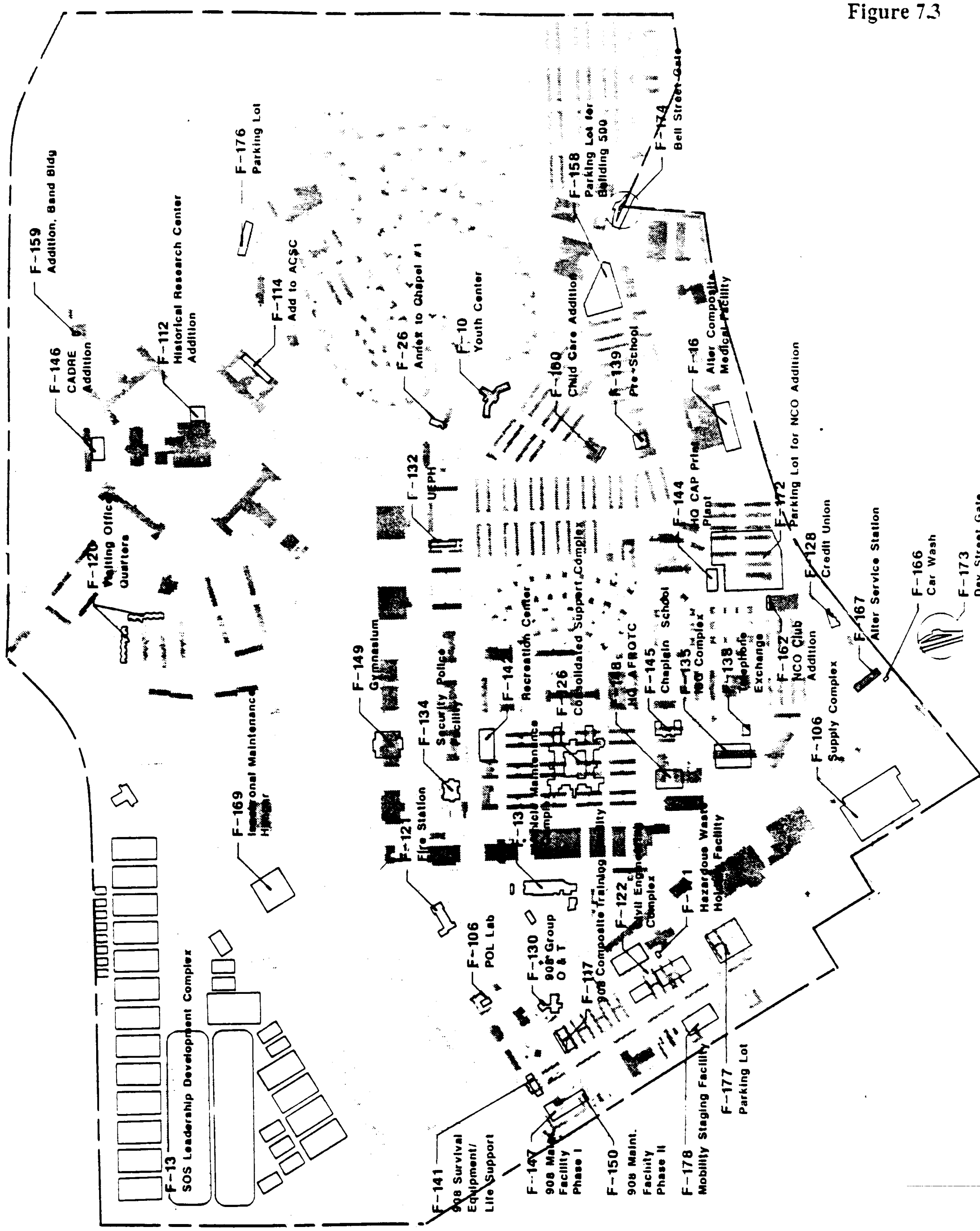
* Denotes project recommended by this BCP effort.

Table 7.2 (cont'd)

DIST.	TAB #	FY	BLDG #	DESCRIPTION	SCOPE (SF)	LAND USE
* 3	F-173	92	1129	Day Street Gate		Transportation
* 10	F-174	92	84	Bell Street Gate		Transportation
16	F-175	88		Recreation Courts, Base Lakes		Recreation
12	F-176	88	157	Construct 125 Parking Spaces		Transportation
3	F-177	88		Construct Parking Lot		Transportation
* 5	F-178	96		Mobility Staging Facility		Industrial
		86		Alter Electrical Dist System (LS)		Industrial
15		87	3041	Install Lights Assault Strip		Airfield
3		87	1033	Renovate Perishable Warehouse		Industrial
6		87		Construct Road N. from Ash to SOS		Transportation
* 7		87		Extend Sycamore St. West Phase I		Transportation
*		88		Pedestrian System Improvements		Transportation
* 3		88		Reconst. Intersect. 1st/Selfridge/Ave C		Transportation
8		88	multi	Upgrade NCO quarters, PH 1(20 units.)		Family Housing
11		88	multi	Upgrade Row Qtrs, PH 1(56 units)		Family Housing
* 4		88		Extend Ash St. Across the Ramp		Transportation
* 3		88		Widen Selfridge bet. 1st & Chanute		Transportation
* 1		88		Close 2nd St. between Ash & Avenue C		Transportation
6		89	1433	Alter SOS Qtrs. Phase 1 (162 PN)	49,186	Housing Unaccomp
12		89	multi	Upgrade General Officer Qtrs (6 units)		Family Housing
11		89	multi	Upgrade Row Qtrs, Phase 2 (50 units)		Family Housing
8		90	multi	Upgrade NCO Quarters, PH 2 (22 units)		Family Housing
* 10		90		Reconstruct Selfridge & Pine		Transportation
12		90	multi	Upgrade Senior Off. Qtrs, PH 1 (47)		Family Housing
6		90	multi	Alter SOS Qtrs. PH 2 (162 PN)	49,186	Housing Unaccomp
15		90		Replace Taxiway Ramp (SY)	111,200	Airfield
* 2		90		Extend Avenue D to Chanute/Selfridge		Transportation
6		91	multi	Alter SOS qtrs. PH 3 (162 PN)	49,186	Housing Unaccomp
8		91	multi	Upgrade Row Quarters, PH 3 (56 units)		family Housing
* 12		91		Maxwell/Magnolia/Poplar Intersection		Transportation
* 10		91		Additional Parking West of Hospital		Transportation
12		92	multi	Upgrade Senior Off. Qtrs, PH 2 (46 units)		Family Housing
8		92	multi	Upgrade NCO Quarters, PH 3 (22 units)		Family Housing
6		92	multi	Alter SOS Qtrs. PH 4 (162 PN)	49,186	Housing Unaccomp
6		93	multi	Alter SOS Qtrs. PH 5 (162 PN)	49,186	Housing Unaccomp
8		93	multi	Upgrade Row Quarters, PH 4 (50 units)		Family Housing
6		93	1410	Alter Four Chillers & Boiler		Industrial
8		94	multi	Upgrade Row Qtrs, PH 5 (56 units)		Family Housing
* 6		94		Extend 3rd Street North Across Ramp		Transportation
* 7		94		Reconst. Chennault/8th/Poplar Intersect		Transportation
* 6		94		Close Maple St. from Sycamore to 8th		Transportation
* 6		94		Counts. East-West Rd. from Gym to Circle		Transportation

* Denotes project recommended by this BCP effort.

Figure 7.3


F-159 Addition, Band Bldg
F-176 Parking Lot
F-146 CADRE Addition
F-112 Historical Research Center Addition
F-114 Add to ACSC
F-26 Annex to Chapel #1
F-10 Youth Center
F-160 Child Care Addition
F-158 Parking Lot for Building 500
F-174 Bell Street Gate
F-139 Pre-School
F-16 Alter Composite Medical Facility
F-172 Parking Lot for NCO Addition
F-120 Visiting Officer Quarters
F-132 UEPH
F-144 HQ CAP Print Plant
F-128 Credit Union
F-166 Car Wash
F-173 Day Street Gate
F-167 Alter Service Station
F-149 Gymnasium
F-134 Security Police Facility
F-126 Consolidated Support Complex
Recreation Center
F-148 HQ AFROTC
F-145 Chaplain School
F-135 Complex
F-138 Telephone Exchange
F-162 NCO Club Addition
F-106 Supply Complex
F-169 Operational Maintenance Hangar
F-121 Fire Station
Vehicle Maintenance Complex
Hazardous Waste Holding Facility
F-106 POL Lab
F-130 908 Group O & T
F-117 908 Composite Training Facility
F-122 Civil Engineering Complex
F-13 SOS Leadership Development Complex
F-141 908 Survival Equipment/Life Support
F-147 908 Maint. Facility Phase I
F-150 908 Maint. Facility Phase II
F-178 Mobility Staging Facility
F-177 Parking Lot

Additional detail and information in regard to planning recommendations, development constraints and opportunities and specifically programmed projects are portrayed on Figure 72, which illustrates the main developed areas of the base. Portions of this graphic are integrated within each small area narrative for more specific reference. Existing buildings on these plans are portrayed with a single line, and proposed facilities are indicated with a double line. Future development parcels are indicated on these plans with dashed lines, are labeled with letters and have references to their approximate size. Small area boundaries have also been illustrated.

Three small area descriptions have been included here as examples. In a full LRFDP, each small area would be described. See Figure 7.4.

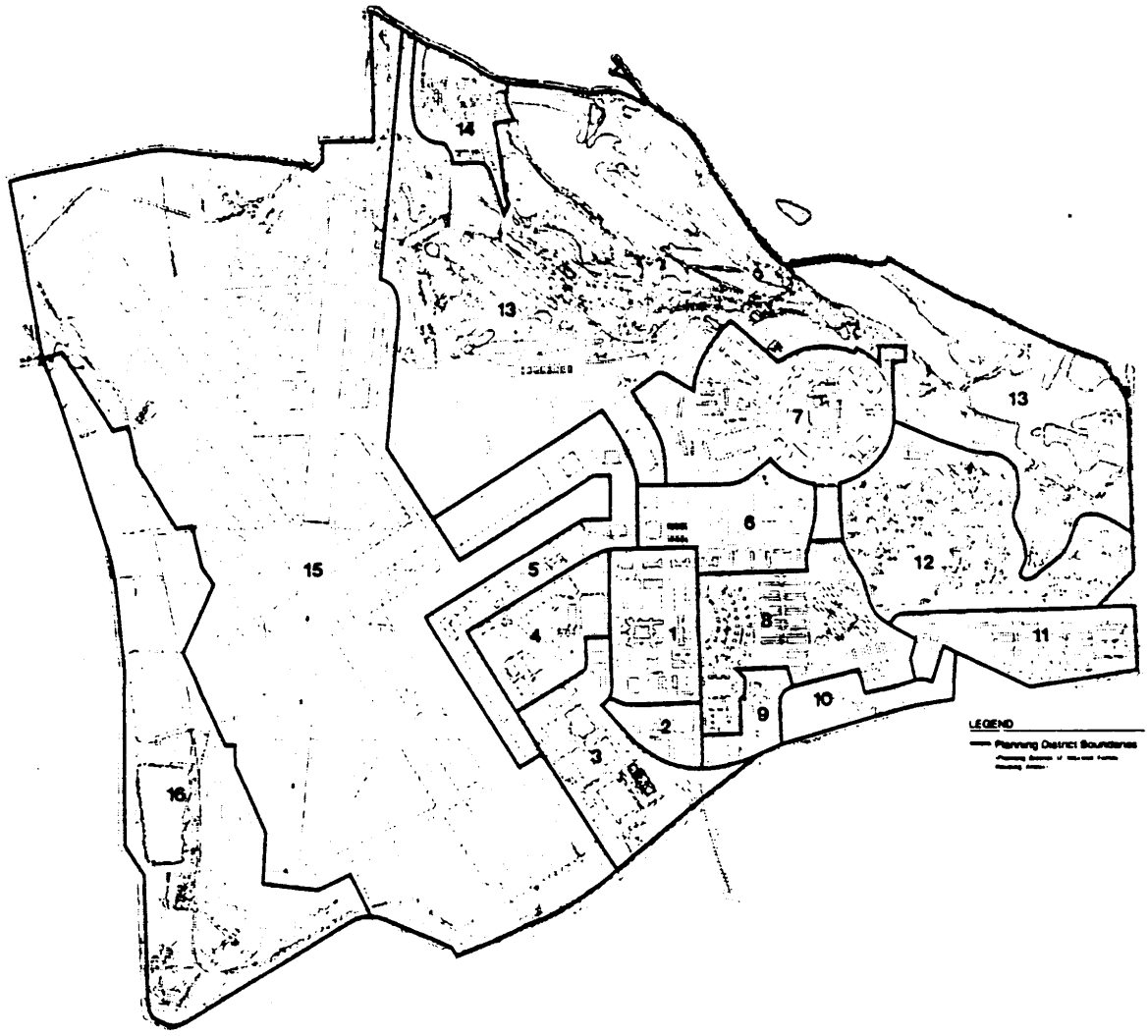


Figure 7.4 Small Area Plans

Small Area 1 - Mixed Use Core (example)

Goals

The primary goal for the mixed use core is to provide a cohesive central area and campus-like setting for Air University and 3800 Air Base Wing administrative functions. This core concept is supported by land uses which will contribute to a diversity and mix of activities which are organized to provide for an interactive yet aesthetically pleasing and pedestrian-oriented environment. The core should be linked to the base transportation system supported by a logical circulation network with adequate parking.

Land Use Policy

Compatible land uses which promote diversity while encouraging mixed use shall comprise this small area. The predominant land uses will be administrative and academic. Administrative facilities will accommodate AU and ABW administrative needs and academic facilities will accommodate classroom requirements.

To contribute to the diversity and interactive nature of this area, intermixing of community service and community commercial uses is recommended. No other land uses are permitted within this small area.

Proposed Development

The major new facilities sited within the mixed use core include the Consolidated Support Complex, Recreation Center/Post Office, Security Police Complex, Chaplain School and ROTC Headquarters (see Figure 7.5).

One additional building site is available within the mixed used core. Parcel A, 15,000 SF in size, is located west of the Recreation Center/Post Office. The use of this site is recommended to be community commercial or community service. This use will reinforce the community commercial use of the Recreation Center/Post Office and contribute to the diversity of the mixed use core.

Facility Implementation and Phasing

The planning recommendations for this small area are achieved through the following projects:

	M-3 Tab #		FY	Scope Description	(SF)
F-126	88	Consol. Supp. Facility	124,000		
F-134	88	Security Police Fac.	13,700		
F-142	91	Recreation Center	28,000		
F-145	92	Chaplain School	14,000		
F-148	92	AFROTC Headquarters	45,000		

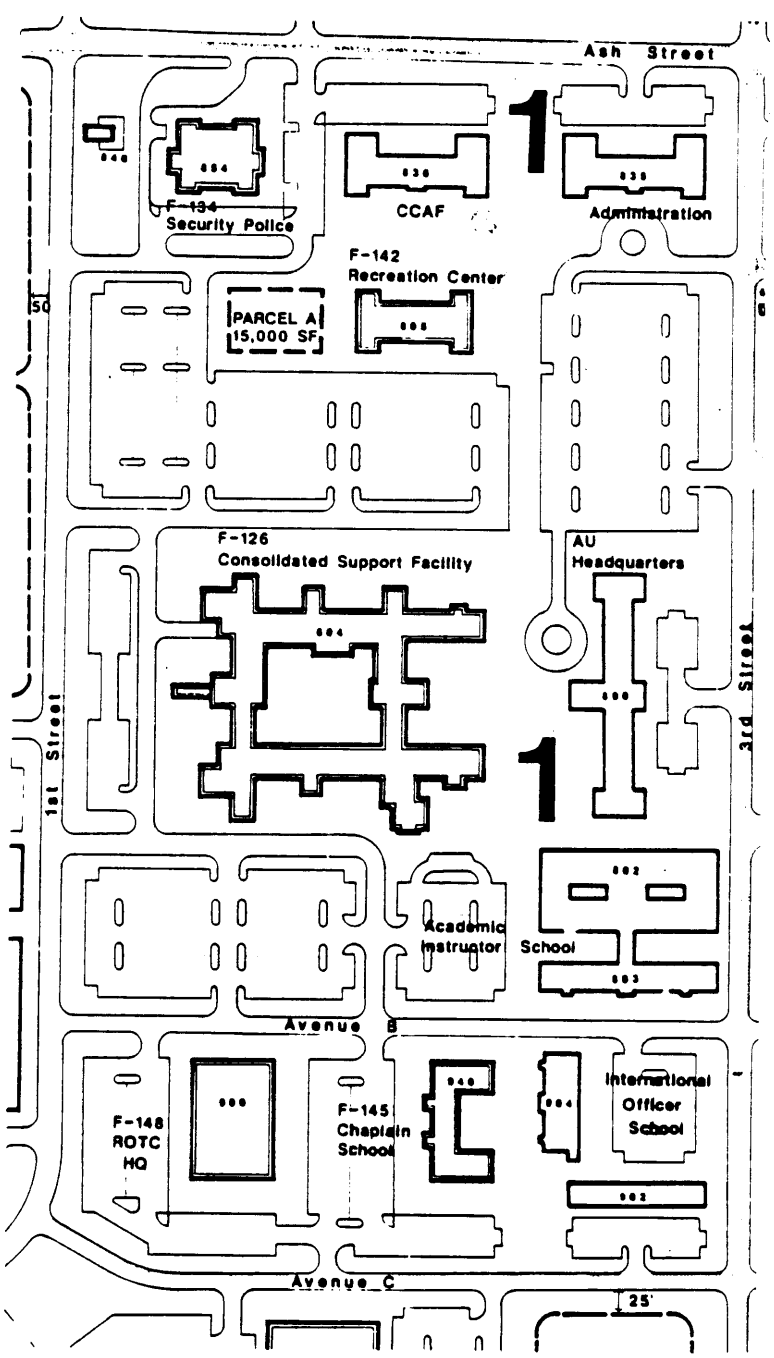


Figure 7.5 Planning District 1

The Consolidated Support Facility (CSF) (F-126) (Building 804) will accommodate all ABW administrative functions which are currently dispersed throughout the base. The siting of the CSF in the mixed use core is consistent with the long range development concept and will, as well, positively affect overall administrative efficiency.

The CSF's location opposite AU Headquarters (Building 800) reinforces this core area and creates a quadrangle-like space between the two structures. The CSF is the first and major anchor project of the mixed use core and its siting and implementation will set a precedent for development in this district. It is important to consider the additional amenities which have been proposed to achieve the mixed use core concept as part of the CSF and to link these improvements to the CSF project to ensure their realization. These amenities include pedestrian improvements and street closings. (See Transportation and Pedestrian/Landscape Implementation.)

The site of the CSF is currently occupied by family row housing, airmen's quarters, and administrative buildings. Construction of the CSF and required parking will require demolition of the following buildings:

808	**816**	**824**
809	**817**	**825**
810	**818**	**826**
811	**819**	**827**
812	**820**	**828**
813	**821**	**829**
814	**822**	**830**
815	**823**	**831**

Although current Air Force policy does not provide for the construction of new family housing, land area is available in future development parcels in planning districts 8 and 11. These parcels could accommodate future family housing facilities to replace those housing units lost if funds were to become available for new family housing construction.

The Security Police Operations Facility (F-134) (Building 854) will be constructed on a site contiguous to the current security police facility. The new facility will consolidate control elements, law enforcement and resource protection functions, base information security and primary command and control for all security police operations. It is important that this facility be oriented to the mixed use core; however, equal design consideration should be given to all four elevations of the structure. Upon completion of this facility, Building 837 will be demolished, but the dog kennel (Building 840) will remain. Additionally, the dog training areas to the southwest of this site should be moved northward within Development Parcel H.

The Recreation Center/Post Office (F-142) (Building 805) will combine recreation center and post office functions in one structure located to the east of the existing post office (Building 897). The facility will primarily be used by unaccompanied personnel, and it is located near the dining hall and quarters for unaccompanied personnel. Sited at the northern end of the mixed use core, the Recreation Center/Post Office provides a link from the central/quad area of the core to Buildings 836, 835 and the security police complex, thus contributing to the integration of these buildings into the core.

No building demolition is required to construct this complex. Pedestrian and landscape improvements associated with this project and its setting within the mixed use core should be phased to occur at the time of this facility's construction. The closing of Maxwell Boulevard between 3rd and 1st Streets could also be accomplished at the same time.

The Chaplain School (F-145) (Building 940) will provide a larger structure in a new facility located near the International Officer School. This facility is required to replace an existing structure which is experiencing severe foundation and structural problems.

The Chaplain School will contribute to the expansion of the core area concept and will provide a linkage to the central core from those areas south of Avenue B. The siting of this facility also reinforces the pedestrian axis created on the former 2nd Street alignment. Demolition of Buildings 907 and 906 will be required prior to construction of this project.

The ROTC Headquarters (F-148) (Building 900) will allow two currently segregated functions to be housed in one central structure. Located in the mixed use core, south of the Consolidated Support Facility and west of the Chaplain School, the ROTC Headquarters complex is an administrative use which is consistent with development goals for the mixed use core. Prior to construction, Buildings 908, 910, 912 and 914 will require demolition. Laundry services currently managed through Unicor and performed by federal prison personnel in Building 912 will be provided in a different facility in the future, probably in the prison area.

Transportation Implementation and Phasing

To accommodate the CSF, as well as to achieve the overall concept of the mixed use core, several street closings and transportation changes and improvements are recommended. (See Future Transportation Plan.) These include:

- The closing of Peach Street between 1st and 2nd Streets,
- The closing of 2nd Street between Ash and Avenue C,
- The closing of Maxwell Boulevard between 1st and 3rd Streets (and the eventual closing of Maxwell Boulevard across the ramp),
- The extension of Ash Street across the ramp,
- Elimination of the traffic signal at Maxwell and 3rd,
- The reconstruction of the intersection of 1st/Selfridge/Avenue C and the installation of a signal at 1st and Selfridge,
- The provision of new traffic signals at 3rd and Ash and 1st and Ash, and
- The widening of eastbound Selfridge from 1st to Chanute.

The closing of Peach Street is necessary to accommodate the siting of the CSF on an axis with Building 800. The closing of 2nd street between Ash and Avenue C and the closing of Maxwell Boulevard between 1st and 3rd are recommended to reinforce the overall concept of the campus-like setting of the mixed use core. The closing of 2nd Street is recommended to occur at the time the CSF is constructed. The closing of the Maxwell segment could be accomplished at the time additional facilities are constructed within the core area, such as the Recreation Center/Post Office. The closing of the Maxwell segment would in turn require the extension and realignment of Ash Street across the ramp, the elimination of the traffic signal at Maxwell and 3rd and the addition of traffic signals at 3rd and Ash and 1st and Ash Streets.

In addition to these recommended street closings and signalization changes, the improvement of the intersection of 1st, Selfridge and Avenue C, the addition of a new traffic signal at that intersection, and the widening of Selfridge between 1st and Chanute should be accomplished at the time of CSF construction. (This intersection improvement will require the demolition of Building 914.) These roadway and signal improvements are recommended to provide appropriate capacity and ease of handling for the additional traffic generated by the CSF.

Pedestrian and Landscape Implementation and Phasing

The following pedestrian and landscape development recommendations are planned for the mixed use core:

- Develop a major pedestrian walkway in the former 2nd Street right-of-way from Avenue C to Ash Street. This improvement should be phased to coincide with the CSF project (Building 804) and should be accomplished after the closing of 2nd Street.

- Develop a major pedestrian node between buildings 800 and 804. This improvement should coincide with the CSF project as well as the 2nd Street pedestrian walkway.

- Develop a minor pedestrian node between Buildings 805 and 836 and between Buildings 904 and 940. The node between 805 and 836 should be linked to the Recreation Center project; the node between 904 and 940 should be phased with the Chaplain School project.

- Plant street trees 40' on center along Ash and 3rd Streets within the short term planning period.

- Plant street trees 25' on center along all other streets in this district within the short term planning period.

Small Area 6 - North Ramp Redevelopment Area

Goals

The goals for this area are to discontinue use for air mission activities and provide land area for the orderly expansion of academic uses and related support facilities.

This area can contribute to the linkage of the mixed use core to Chennault Circle.

Land Use Policy

Academic, unaccompanied housing and recreation uses will be permitted in this small area.

Buildings 842 (industrial) and 690 (recreation and industrial) and Building 689 (aircraft operations and maintenance) *will* remain in the short to mid-range period or until these sites are required for academic, housing or recreational expansion. Development in this area is envisioned to be of a higher density than other areas on base and can support multi-storied structures for both classrooms and housing to allow for maximum land area utilization.

Proposed Development

A new gymnasium is programmed as the first major project in this redevelopment district (see Figure 7.12). Outdoor tennis courts which will replace courts removed by development in other areas are envisioned as part of this project. A 75 person unaccompanied enlisted personnel quarters (UEPH) is programmed on a site currently occupied by the credit union. Two additional parcels can accommodate multiple buildings for development of housing and academic use. Parcel N is envisioned as supporting two multi-storied structures to accommodate future unaccompanied housing requirements. Parcel O is envisioned to support four multi-storied academic structures. The multi-storied academic structures should be sited and arranged to form a quadrangle or nodal area which will provide a focal point for the redevelopment of this district Parking has been illustrated to accommodate projected parking demands and will occupy a large portion of the area.

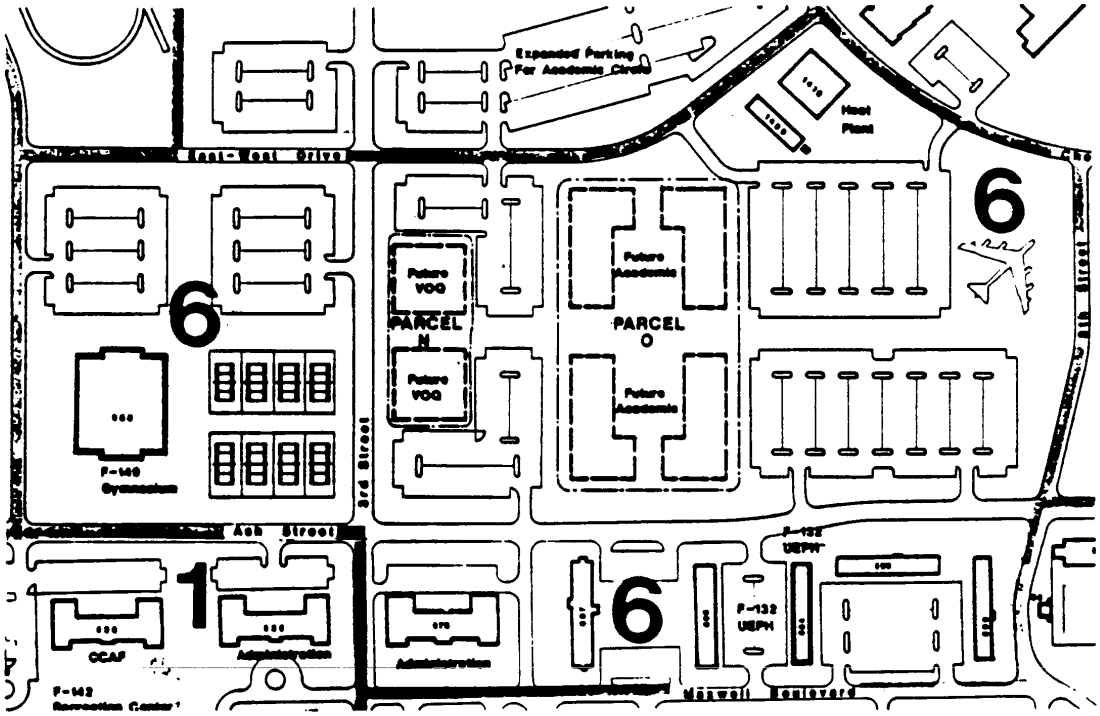


Figure 7.12 Planning District 6

Facility Implementation and Phasing

The implementation of the planning recommendations for this area involves the following projects:

Tab #	FY	Description	(SF)
F-132	88	UEPH (75 PN)	25,715
F-149	94	Gymnasium	35,000

UEPH (75 person) (F-132) (Building 684). A 75-person unaccompanied enlisted personnel quarters (UEPH) will be constructed on a site located between Ash and Maxwell Boulevard in an existing concentration of UEPHs. The construction of this facility will require the demolition of Buildings 683 and 685. The credit union, currently located in Building 683, will be relocated to a new facility within Planning District 3. Future long-term consideration should be given to the relocation of the credit union to Parcel A in the mixed use core. This siting would provide more convenient walk-up access for credit union users. In any case, an automated teller should be located in District l, 6, or 7 in the near future.

A new Gymnasium (F-149) (Building 858) and accompanying tennis courts are sited in the north ramp redevelopment area. The gym would be the first project sited within this former ramp area and will set a precedent for future development. The siting of the new gym requires that aircraft access to the isochronal maintenance facility in Building 689 be accommodated until a new facility for that function is constructed. Parking, pedestrian improvements, and associated tennis courts should be configured to allow for the periodic access of towed aircraft.

The extension of SOS Drive and 3rd Street across the ramp and East-West Drive to Academic Circle should be timed with the construction of the gym to provide access to adjacent parking areas. The construction of the new gym will require demolition of Building 842. Mobility functions currently housed in this facility would be accommodated in a new facility located in Parcel J, K, or L in District 5.

Transportation Implementation and Phasing

Transportation projects within this planning district include the extension of SOS Drive, 3rd Street, and East-West Drive across the north ramp redevelopment area. SOS Drive will provide access from the mixed use core area north across the ramp to the new gym and the SOS leadership complex. 3rd Street extended north across the ramp will provide access to the parking areas associated with the gym new housing areas in the north ramp redevelopment area, VOQ's and other areas to the northwest of Academic Circle.

Construction of East-West Drive will link Academic Circle to the concentration of new development in the ramp area. Upon construction of East-West Drive, Maple Street should be closed, and the intersections of Chennault and 8th and Chennault and Poplar should be reconstructed into "T" intersections.

Pedestrian and Landscape Implementation and Phasing

The following pedestrian and landscape development recommendations are planned for this district:

- Street trees should be planted 40' on center along Ash between 8th and SOS Drive and along 8th Street between Chennault Circle and Ash, and trees should be planted 25' on center along all other streets.

- A major pedestrian walkway should be developed in the SOS Drive corridor as well as in an east-west direction in the middle of the north ramp redevelopment area from 8th Street to connect future facilities to the SOS Drive pedestrian walkway and the air park.

- Pedestrian nodes (courtyards) should be developed at the proposed academic complex quadrangle in Parcel O and at SOS Drive next to the tennis court complex and gymnasium building.

These improvements should be phased to correspond with development in the north ramp area. Although street trees have recently been planted along Ash, these plantings should be reevaluated.

Small Area 7 - Academic Circle (example)

Goals

The goals for this area are to continue to reinforce the campus-like setting which enhances academic and research activities conducted by Air University (AU) and to provide and maintain adequate classroom and parking space for AU schools.

Land Use Policy

Only academic and unaccompanied housing and related support uses shall be permitted in this area.

Proposed Development

New facilities planned within Planning District 7 primarily include expansion and alteration of existing structures, and the construction of two additional Visiting Officers Quarters (see Figure 7.13). The building expansion projects include an addition to the AU Band building (Building 1450), an addition to the Air Command and Staff College (Building 1402), an addition to the Center for Aerospace Doctrine, Research and Education (CADRE, Building 1400), and an addition to Building 1405 to accommodate requirements of the Air Force Historical Research Center.

Development Parcel P, 2.7 acres, could be utilized for VOQs. Should additional land area be required for the expansion of housing and academic facilities, the area of the eighth hole of the golf course along Cottonwood Road could be used. In this event, the golf course would be reconfigured to accommodate the lost land area and eighth hole. Future expansion in this area should only be considered if the north ramp area (District 6) is fully developed and no other land area is available for development.

Facility Implementation and Phasing

The implementation of the planning recommendations for this area involves the following projects:

Tab #	FY	Description	(SF)
F-120	86	Visiting Officers Quarters (80 PN)	38,000
F-159	86	Addition, Band Building	2,000
F-114	88	ACSC Addition	17,600
F-146	89	CADRE Addition	30,000
	89	Alter SOS Student Qtrs. Phase 1 (162 PN)	49,186
	90	Alter SOS Student Qtrs. Phase 2 (162 PN)	49,186
	91	Alter SOS Student Qtrs. Phase 3 (162 PN)	49,186
	92	Alter SOS Student Qtrs. Phase 4 (162 PN)	49,339
	93	Alter 4 Chillers & Boiler	
	93	Alter SOS Student Qtrs. Phase 5 (162 PN)	49,186
F-112	93	Historical Research Ctr.	30,000

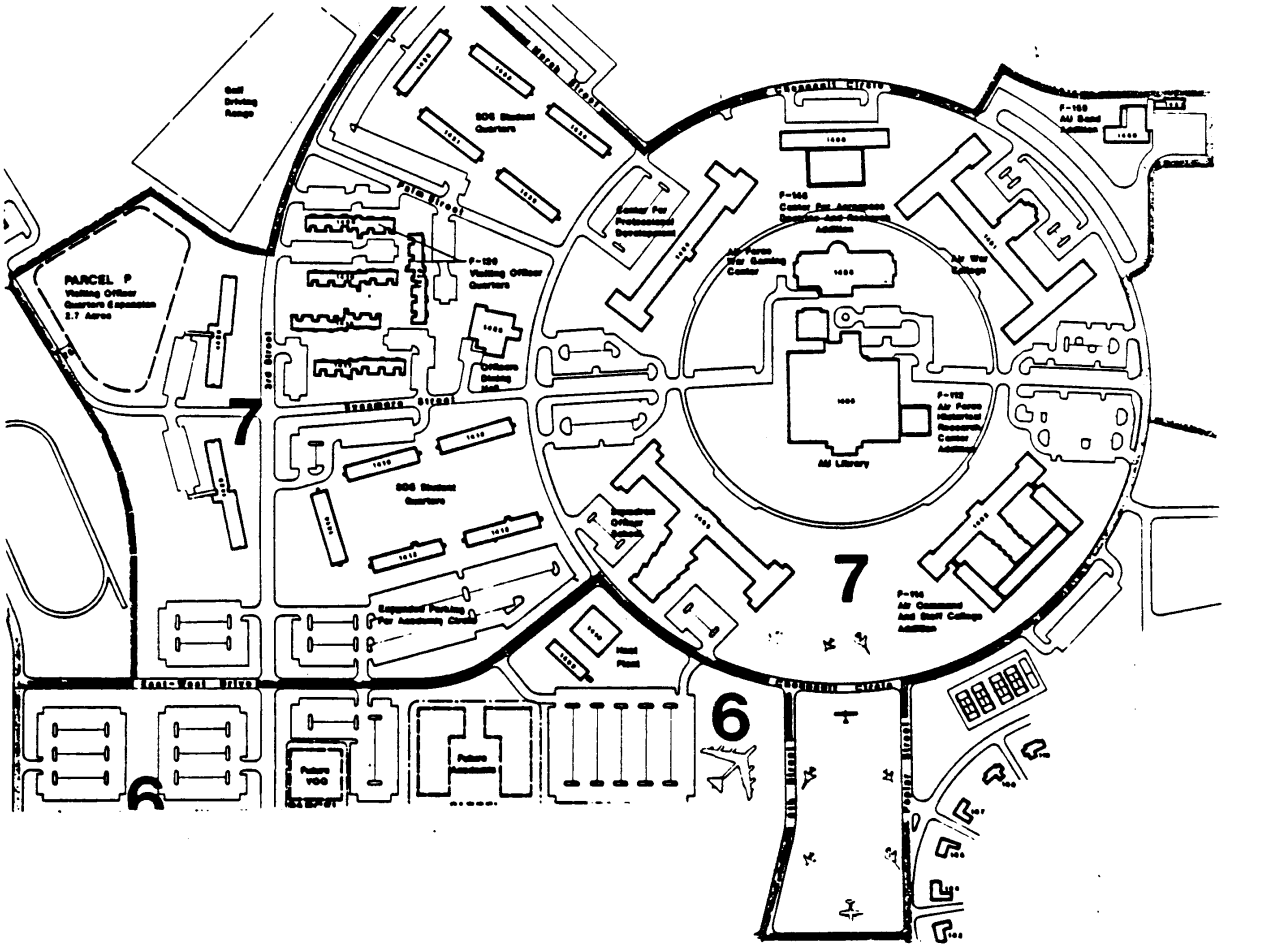


Figure 7.13 Planning District 7

Visiting Officers Quarters (VOQ) (F-120) (Buildings 1468 and 1470). Housing for an additional 80 persons will be provided and sited along Palm Street among existing VOQs. This project will meet projected increases in students and visitors resulting from an increase in the Center for Professional Development students, an increase in the number of unit training assemblies and active duty training associated with the 908th Tactical Airlift Group, an increase in the number of ROTC courses, and the 800 students that the Squadron Officers School hosts five times a year.

Addition to Band Building (F-159 (Building l450~. A requirement for increased space demand for the Air University Band will be accommodated with this project.

ACSC Addition (F-114). A two-story addition and alteration of a portion of Building 1402 will allow for the centralization of academic facilities at the Air Command and Staff College (ACSC), which is currently split in two locations. This facility will displace existing parking which will be replaced with expansion of the parking area behind Building 157.

Alter Squadron Officer School Student Quarters. All unaccompanied housing within this district will be renovated to provide adequate living quarters to properly accommodate officers who serve temporary duty (TDY) to attend the Squadron Officer School. The buildings to be renovated, 1412,1413,1414, 1415, 1416, 1430, 1431, 1432, 1433, and 1434, were constructed in the 1950s, with no major upgrades since their initial construction. Renovation of these facilities will be phased during a period of five years.

CADRE Addition (F-146). Expanded educational programs including space for seminars, classrooms, and support areas will be accommodated with the construction of a 30,000 SF addition to Building 1400.

Historical Research Center (F-112). An addition to Building 1405 will provide badly needed storage space for the Historical Research Center. Current storage facilities will be adequate for only the next five years. The new addition will also allow the Oral History Program to be located with the rest of AFHRC.

Transportation Implementation and Phasing

Upon completion of the new SOS Leadership Development complex, Sycamore Street should be extended westward to afford access from the Academic Circle. Additional parking to serve the Academic Circle is required to meet current and projected increased parking demands. This has been provided through the expansion of the lot located to the southwest of the heating plant, an expansion to a lot currently planned to the north of Building 157, as well as expanded facilities in the north ramp redevelopment area (District 6). Improvements to existing Academic Circle parking facilities have been suggested addressing capacity, circulation, aesthetic, and safety concerns. Additionally, the intersections of Chennault and 8th and Chennault and Poplar should be reconfigured to "T" intersections after the closing of Maple Street.

Pedestrian and Landscape Implementation and Phasing

The following pedestrian and landscape improvements are recommended for implementation in this district:

- Remove cedars along Maple south of Sycamore and along 8th Street between Chennault Circle and Ash Street.
- Plant street trees 40' on center on exterior of Chennault Circle except where cedars exist and plant street trees 25' on center on all other streets.
- Plant street trees 40' on center on the inside of Chennault Circle between parking lots where new islands will be constructed.
- Remove shrubs in the open lawn to the south of the library.
- Construct new sidewalks from 8th and Poplar Street intersections to the library.
- Install informal plantings of trees in VOQ area west of Chennault Circle.
- Relocate existing southern magnolia and ginkgo trees along the library vista to m ake room for the installation of airplane display pads, sidewalks and formal tree plantings in the area between 8th and Poplar Streets.

The removal of the cedars along Maple Street can be phased with the removal of Maple Street or earlier, depending upon available funds. The removal of cedars and recommended street tree planting and formal planting as well as construction of sidewalks should occur in accordance with base priorities for improvements to this area.

Appendix B

Model Statement of Work for a Contracted

Long Range Facilities Development Plan

The Long Range Facilities Development Plan (LRFDP) component of the Base Comprehensive Plan/Master Plan should contain an identification and description of all facilities necessary to implement the provisions of all other component plans. The LRFDP therefore includes all projects necessary for the efficient fulfillment of the installation mission as well as provision of a high-quality environment for the installation community. The LRFDP includes text and graphic descriptions of these projects.

The LRFDP will vary according to the needs and conditions at each installation but will contain, at a minimum:

- Description of installation organizations, their current space and future needs
- Functional relationships analysis of installation organizations
- Long Range Facilities Development Plan (listing of projects)
- Capital Improvements Plan (listing of projects)
- Detailed description of proposed development, including all projects, divided into small are a plans.

These elements are briefly described below. The determination of required facilities and the identification and evaluation of alternative sites are a necessary part of the LRFDP process, but they usually are not viewed as required elements of the LRFDP product.

Description of Installation Organizations

The contractor is required to interview all organizations as specified by the Engineer. The purpose of these interviews is to gain an understanding of each organization's mission and related facility requirements. The data gained from the interviews will be used in the functional relationships analysis and in determining future facility requirements.

Organizational Relationships Analysis

The contractor is required to conduct an analysis of each organization's relationship with other organizations at the installation and the effects of these relationships on facility locations. At the

very least, the contractor shall provide a graphic representation of organizational relationships (Organizational Relationships Matrix), a graphic presentation of the relationships of organizational groupings (Organizational Model), and a written discussion of organizational relationships at the installation.

Long Range Facilities Development Plan

A listing shall be prepared of all proposed siting, renovations, additions, modifications, facility use changes and alterations. These projects also include utility, transportation, and landscape improvements recommended in the comprehensive plan. Projects funded from all sources shall be included in this listing, including capital improvements, operations and maintenance, family housing, non-appropriated funds, other Government sources, and private sources. The listing shall include the following information: proposed facility number, descriptive title, category code, grid location (from installation base map), scope of project (usually in square feet), fiscal year facility is programmed, and funding source. The Long Range Facilities Development Plan is graphically illustrated on a base map of the installation, showing all new facilities in their selected locations and all transportation and other related facilities improvements.

Capital Improvements Program

The Capital Improvements Program is a listing of projects included in the LRFDP that are scheduled to be funded within the time frame of the current Five Year Defense Plan (usually two to seven years from the current year). The listing of projects in the Capital Improvements Program is identical to those listed in the LRFDP, but the Capital Improvements Program only includes those projects scheduled within the identified time frame.

Detailed Descriptions of Proposed Development

The contractor shall graphically divide the installation into logical small areas for the purpose of detailed presentation of the elements included in the LRFDP. At a minimum, this presentation shall include the following: an illustration of the proposed development for the small area; a statement of the land use policy for the small area; a description of each project proposed for the area; and architectural and landscape design policies for the area, as appropriate.

Appendix C

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Appendix D

Appendix D, under separate cover is the Planning Management Manual developed by Woolpert Consultants as part of the Base Comprehensive Plan for Wright-Patterson Air Force Base, Ohio. The manual describes in detail the Air Force programming process and the relationship of the BCP and facilities programming and funding.